

MINING AND METALLURGICAL SOCIETY OF AMERICA

MEETING OF THE MINING AND METALLURGICAL SOCIETY OF AMERICA

IN COLLABORATION WITH

THE AMERICAN MINING CONGRESS, THE AMERICAN
INSTITUTE OF MINING ENGINEERS, THE IDAHO
MINING ASSOCIATION, THE MONTANA SOCIETY OF
ENGINEERS, THE CALIFORNIA METAL PRODUCERS'
ASSOCIATION, THE SPOKANE MINING MEN'S CLUB,
THE NEVADA MINE OPERATORS' ASSOCIATION, THE
COLORADO SCIENTIFIC SOCIETY, WITH REPRESENTATIVES FROM SEVERAL CHAMBERS OF COMMERCE, AND MANY OPERATING MINES

Auditorium of the Smithsonian Institution
Washington, D. C. . . . December 16, 1915



PRESENTED BY MR. SMOOT

JANUARY 6, 1916.—Referred to the Committee on Printing

WASHINGTON
GOVERNMENT PRINTING OFFICE

1916

REPORTED BY MR. SMOOT.

IN THE SENATE OF THE UNITED STATES,
January 7, 1916.

Resolved, That the manuscript submitted by the Senator from Utah (Mr. Smoot) on January sixth, nineteen hundred and sixteen, entitled "Synopsis of conference of the Mining and Metallurgical Society of America, with various mining organizations, December sixteenth, nineteen hundred and fifteen," be printed as a Senate document, and that ten thousand additional copies be printed for the use of the Senate Document Room.

Attest:

JAMES M. BAKER, *Secretary.*

MOTION BY MR. SMOOT.

IN THE SENATE OF THE UNITED STATES,
January 19, 1916.

Ordered, That the illustrations accompanying Senate Document No. 233, Sixty-fourth Congress, first session, entitled "Mining and Metallurgical Society of America," be printed with said document.

Attest:

JAMES M. BAKER, *Secretary.*

PROGRAM.

FIRST SESSION—10 A. M.

Carl Scholz, president of the American Mining Congress, in the chair.

Organization.

Appointment of committees.

Address by Edmund B. Kirby, E. M.

Address by Hon. Franklin K. Lane, Secretary of the Interior.

Address by Hon. Edward T. Taylor, Representative from Colorado.

SECOND SESSION—2.30 P. M.

William L. Saunders, president of the American Institute of Mining Engineers, in the chair.

Address by Hon. Reed Smooth, Senator from Utah.

Address by Dr. George O. Smith, director United States Geological Survey.

Address by J. Parke Channing, E. M.

Report of committees.

Discussion and adoption of resolutions.

THIRD SESSION—8.30 P. M.

W. R. Ingalls, president of the Mining and Metallurgical Society of America, in the chair.

Formal addresses in support of resolutions by Horace V. Winchell, E. M.; Hon. C. S. Thomas, Senator from Colorado; Hon. T. J. Walsh, Senator from Montana.

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FOREWORD.

Earlier bulletins have stated in detail the object of holding a meeting of the Mining and Metallurgical Society in Washington on December 16, 1915. They also noted, from time to time, the preparations that were being made for that meeting, and for such information the reader is referred to the earlier bulletins of this volume.

Delegates to the meeting began to gather on the 15th, and by 10 o'clock on the morning of the 16th nearly every State containing Government land had one or more representatives ready to join in the discussion of the subject under consideration.

While by far the larger portion of those in attendance registered from eastern cities, it must be borne in mind that they were nearly all engineers whose activities are centered in Western States, hence it may be said that the gathering was one of representative western mining men brought together by a society whose main office happened to be in the East.

The gathering was not as large as those responsible for it had hoped. Many who had signified their intention of being present had found at the last moment that it was impossible for them to do so. This is not strange, for it is a fact that those of us who are most interested in securing changes in the United States land laws are also creatures of circumstance and are subject to immediate and unexpected calls from all parts of the country.

There is a class of men as deeply interested as the engineer, if not more so, in securing these changes—the prospector or small operator, the men who work but have little time or means for attending such a convention, regardless of their interest. These were conspicuous by their absence; but several hundred letters have been received by the secretary from such men giving their earnest support to the movement and regretting their inability to attend. These letters, and many more received by the committee on mining law, show beyond doubt the earnestness of the undertaking, and have been a strong support to those who have been able to attend and address the convention, even though the actual number present was small.

The addresses which are printed in this bulletin form a symposium on the past and present condition of our mining law, such as has never been gathered into such concise form before and which could have been gathered in no other way.

The secretary voices the opinion of many of the members of this society in saying that the work was worth the doing; it was well done and will surely bear fruit in due time.

When success follows this effort, as it surely will, the credit will not fall to any one society or group of men, but will come because of united and harmonious effort of every organization represented.

Above all, ample credit must be given to the officials in Washington who have given freely of their time and have afforded facilities for furthering the interest of the convention, without which little or nothing could have been accomplished.

The President of the United States has shown his interest; the Department of the Interior has not only shown interest but has assisted in every way possible to facilitate the objects of the meeting. Practically every Senator from the public-land States and nearly all the Representatives from those States were present at one or more sessions of the convention, or indicated by letter their desire to further the objects of the meeting.

Our work is well begun. A permanent committee of mining men is being formed, representing all of the interested metal-mining associations and operators, to carry on the work from this point and to direct our further efforts toward the desired end.

PROCEEDINGS OF THE MINING AND METALLURGICAL SOCIETY OF AMERICA.

FORENOON SESSION.

The meeting was called to order by Mr. W. R. Ingalls, president of the Mining and Metallurgical Society of America, at 10 o'clock.

Mr. W. R. INGALLS. Gentlemen, we have come together here as a meeting of mining men at the invitation of and under the auspices of the Mining and Metallurgical Society of America, an organization which for many years has exerted earnest efforts in urging upon Congress the necessity for a revision of the mining-land laws of the United States. It was not desired, however, to have a meeting of the Mining and Metallurgical Society alone, but rather a general meeting of mining men, and consequently everybody interested in mining was invited to participate. This meeting is, therefore, being held in collaboration with the American Institute of Mining Engineers, the American Mining Congress, the Idaho State Mining Association, the Montana Society of Engineers, the California Metal Producers' Association, the Spokane Mining Men's Club, the Nevada Mine Operators' Association, and the Colorado Scientific Society, together with representatives from several chambers of commerce and many operating mines. Through the courteous cooperation of Mr. Manning, Director of the United States Bureau of Mines, every mine operator in the United States was invited to attend this meeting. The attendance here this morning shows that it is a meeting of broad scope, as was planned.

The purpose of this meeting is to urge upon Congress the earnest wish of the mining industry that the archaic mining laws of the United States be revised; that they be revised in whole; and that a commission be promptly authorized for this purpose. In this program, the mining societies, the mining press, and the mining operators of the country have united. A remarkable unanimity of opinion in favor of it has been expressed.

The Mining and Metallurgical Society of America in its long consideration of this subject appointed a committee, whereof Mr. H. V. Winchell was chairman, to make a study of it. The report of Mr. Winchell's committee is one of the most scholarly and exhaustive that has ever been made. This committee formulated its conclusions in a series of recommendations, which were put before the members of the Mining and Metallurgical Society for adoption as resolutions by letter ballot. The procedure was deliberate, occupying a year or more. The fundamental recommendations were adopted by the membership by practically unanimous vote. On others of less fundamental character the vote was more evenly divided. The council of the society decided that it would advocate only those resolutions upon which the vote was substantially unanimous, and so stated

in issuing the call for this meeting. The resolutions then stated were as follows:

I. The mining law should be revised not piecemeal, but thoroughly, so as to coordinate and harmonize its various provisions.

II. A statute of limitations should establish a reasonable term of years beyond which placer patents shall be immune from attack on the ground of fraud.

III. Full privilege of appeal to some competent court of law should be provided for in all cases of contests between rival claimants or between a locator and the Government.

IV. Notice of mining locations should be so recorded as to give the fullest possible public notice.

V. The apex law should be abolished.

VI. Existing titles should be reaffirmed and fully recognized and no effort should be made to create retroactive legislation.

VII. For the purpose of giving the fullest consideration to the needs of every branch of the mining industry and every section of the country, it is desirable that a Government commission be created by act of Congress, whose duty it shall be to investigate by every proper means the questions and interests here referred to and to make recommendations as a basis for the proposed mining law revision.

These resolutions have been adopted in full by several of the State mining societies, including the Montana Society of Engineers and the Utah Chapter of the American Mining Congress. The American Mining Congress as a national organization has expressed itself in substantially the same way. The American Institute of Mining Engineers has also adopted the main principles that are advocated. After the issuance of its first announcement the council of the Mining and Metallurgical Society decided that it would offer at this meeting only the first and last of these resolutions, considering that they express the main purpose, namely, the statement of the opinion that the mining laws should be revised in whole, not merely piecemeal, and that a commission should be appointed to recommend to Congress a new, properly codified law. It was considered incompatible with the latter purpose to state in other resolutions what it was expected that the desired commission should do. The Mining and Metallurgical Society of America, as an organization, will therefore offer only the two basic resolutions.

For conducting this meeting, which is not a meeting of any one society, it is necessary to have certain rules. The rules drawn up by the council of the Mining and Metallurgical Society of America, which are designed to be as broad and as simple as possible, and are understood to be accepted by this meeting, are as follows:

The meeting to comprise three sessions, the first beginning at 10 a. m., the second at 2 p. m., and the third at 8.30 p. m.

The meeting to be organized with the president of the Mining and Metallurgical Society in the chair. The presiding officers in the several sessions to be the presidents of the Mining and Metallurgical Society of America, the American Institute of Mining Engineers, and the American Mining Congress, or representatives of those organizations.

A committee on credentials, three members, to be named by the Mining and Metallurgical Society of America.

The several sessions to be open to all persons interested in the mining industry, but the right of voting to be limited to accredited delegates and other persons especially invited.

Credentials to be: (1) Membership in the societies invited. (2) Representatives, one each, of chambers of commerce especially invited. (3) Representatives, one each, of operating mines in the United States, providing that any such mine have no representation through membership in a society or otherwise. Representation in all cases to be limited to citizens of the United States. Credentials to be passed upon by the committee on credentials, whose decision will be final.

A committee on rules, three members, to be appointed by the chairman.

A committee on resolutions, five members, to be appointed by the chairman.

All resolutions to be submitted to the committee on resolutions.

The committee on rules to have the right to make provisions limiting and concluding debates, if necessary.

The functions of the committee on rules not having been defined, a resolution prescribing them will be in order.

It was moved by Mr. Stone, of New York, that the committee on rules be given power to prescribe the scope that discussions should take at this meeting and that motions referring any questions to the committee on rules have precedence over any other motion. (The motion was duly seconded and carried.)

The chairman next announced the membership of three committees, as follows:

Committee on credentials.—J. F. Callbreath, Washington; George E. Collins, Denver; George C. Stare, New York.

Committee on rules.—J. Parke Channing, New York; Seeley W. Mudd, Los Angeles; Frank E. Ross, Spokane.

Committee on resolutions.—Horace V. Winchell, Minneapolis; E. B. Kirby, St. Louis; Hennen Jennings, Washington; Walter Douglas, Douglas, Ariz.; John G. Kirchen, Tonopah, Nev.

MR. INGALLS. I will now ask Mr. Carl Scholz, president of the American Mining Congress, to take the chair, and I have great pleasure in introducing Mr. Scholz to you.

MR. SCHOLZ. In accepting the honor of presiding at this meeting I wish you to bear in mind that this honor has fallen to me only because I happen to be the presiding officer of the American Mining Congress. I shall not take your time by making an address, but will call on Mr. Kirby, who is chairman of the mining law revision committee of the American Mining Congress, to give us a discussion of the work he and his committee have had in hand for quite a long time.

EDMUND B. KIRBY. The subject that has brought us together here is not new. In the dim recesses of the past, far beyond the first recorded history, a large portion of the articles used by mankind were taken from beneath the surface of the earth. Men sluiced gold gravel and dug ore, and milled and smelted and forged, and they built up mining property rights with elaborate systems of law to define and protect them. With the beginning of history, the art of mining, with all of its accompaniments, including its laws, appears

fully developed and well abreast of the other basic industries, agriculture, transportation, and manufacture.

When Jason and his Argonauts sailed across the Euxine Sea and stole the fleece riddled heavy with gold from the sluice boxes of the Colchians, he found himself up against organized industry and laws, with men and Winchesters enough to back them, which made it necessary to accelerate his departure and to prepare an account for the press at home, which was so interesting and dramatic that no questions were ever asked. As records become more complete, we get glimpses of the horrors of the slave-worked mines in Egypt and other despotic nations of antiquity, of the leasing system of the Republic of Greece, with its square claims on the flat veins of Laurium, of Demosthenes fighting mining lawsuits. Carthage appears, drawing from her rich mining camps much of the wealth she used in fighting the Romans, and so keenly alive to the merits of the prospector that to the one who discovered a new district she gave wealth and a title of nobility. The conquests of Rome appear to have been stimulated largely by the desire to seize the great mining districts of other countries and those of Asia Minor, Greece, Egypt, Gaul, Britain, and Spain, as they passed under Roman control, seemed to have influenced more or less the form of the mining system which appears in the Roman civil law.

From the fall of Rome to the Middle Ages, little is known of mining customs or laws, but then, in Germany, appeared fully developed systems, including the right of discovery and the apex right, while much litigation is noted upon the ancient question as to the right of a drainage tunnel enterprise to collect tribute from the neighboring claims drained. From this time on an increasing amount of information has been preserved. Spain, beyond all comparison the greatest mining nation of history, and for a long period the greatest of nations, seems to have repeatedly revised and systematized the results of her practical experience during thousands of years. Her great and culminating effort in this direction was the famous revision, in 1783, of the mining laws of New Spain.

Wherever there are records of the mining industry, there seem to have been periodical efforts to revise the customs and laws and to adapt them to the latest conditions present. The problems have always been much the same, whether presented to small district assemblies of miners in remote regions of the world, or to those who took part in epoch-making changes, such as the New Spain revision of 1783, the mining district laws of California, the present mining code of Mexico, the American law of 1872, and the present mining systems of the Australasian colonies.

Through all the confused records of mining customs and laws in the past, certain facts stand out clearly. First among these is the underlying conviction, which seems to have been unanimous among all classes outside of the miners, that those who worked or operated mines were created by a beneficent providence for the express purpose of being plundered. The main question always seems to have been how much would the capital and labor engaged in mining stand without being killed off and who was to get most of the plunder.

Hence mining customs and laws have been mainly the result not of steadily developing principles, but of incessant fighting. Mining codes therefore vary greatly, some having been beneficial and others

disastrous to the industry. Mr. H. C. Hoover, in calling attention to some of these facts, points out that the contestants were usually four in number: The political head, such as the King, prince, or bishop, who desired mining wealth for his personal use; the State or community in general, which wanted it for revenue; the landowner; and the miner (which term, of course, included both operators and workmen). All that saved the miner from extinction was the fact that without his skill no one could get anything. With relinquishment of the King's claims, the contest has become triangular, while the State now bases its claims upon logic instead of power, so that the main opponent of the operator at present is the landowner, who still exacts his royalty of 12 to 30 per cent of the gross product.

Fighting over profits has naturally interfered with a proper consideration of what would be best for the welfare of the industry. The mining communities have always recognized more or less clearly what was necessary, but they have generally been under the power of others and have been forced again and again to submit to policies which have brought the industry to a standstill. Much of the bad legislation has been caused by the inability of well meaning but non-mining men to understand the technical peculiarities of ore deposits and mining methods. It seems, for instance, to have been almost as hard to explain to Napoleon Bonaparte as to an average American lawyer the reasons why ordinary land tenure is disastrous when applied to mineral land.

Notwithstanding the confusion introduced by the desperate class struggles of the past, certain underlying facts have been made apparent:

(1) Mining is a very sensitive industry, easily destroyed, but wonderfully responsive to just and wise legislation.

(2) The laws best for the industry have been those evolved by the miners, whenever they have been free to work out their ideas.

(3) Ordinary land tenure kills the mining industry in most kinds of deposits and restricts it in all cases.

(4) It is not to the interest of the community to have ore deposits held undiscovered or unworked.

(5) The practical problem has always been the same—how to induce capital and labor to undertake the risks of mining; how to prevent the idle holding of deposits; how to prevent operators from tying up more ground than they need.

It is not necessary to touch here upon the long indictment against the American mining code, for others are to address you upon that subject.

Now that it is at last to be revised, it is of special interest to note how the greatest revision in history, that of 1783, was made. The procedure by which the work was accomplished was, for that Government and that time, even more remarkable than the code itself. We are told that at the command of the King of Spain the miners throughout the Spanish dominions of America elected deputies who assembled in a convention and proceeded to frame the new ordinances. That the questions at issue were hard fought may be inferred from the fact that after many months the King found it necessary to force an agreement by ordering the completion of the work within a certain time, which made the total session about ten months.

The ordinances provided for a carefully planned system of administration necessary to make them effective, and the King in adopting the code required the very men who had framed it to undertake the permanent administration of its operations. The new law was admirably adapted to the conditions of the time and has always commanded the respect and enthusiasm of mining men.

The CHAIRMAN. Mr. Kirby has, in the most interesting manner, outlined the history of mining laws, and I am sure I express the sense of this meeting in extending to him our thanks for his very instructive paper.

In this day of history making, when the names of kings and czars are commonplace, we lose sight of the fact that in our own country we have men who wield a power, perhaps, just as large as that of the kings and czars abroad. The czar to whom we especially bow is a man who needs no introduction to this meeting. We have all come in contact with him more or less, and I am pleased to say that, while I have had dealings with five or six former secretaries, there is not one for whom my admiration is so great as for the gentleman who occupies the office now. I take pleasure in introducing to you the Hon. Franklin K. Lane, Secretary of the Interior.

Secretary LANE. I understand that the best your president can say of me in presenting me to-day is that I am sort of benevolent despot. I ought to have some sympathy with mining men and mining engineers, prospectors, and operators because I lived all the early part of my life among them and grew up in an atmosphere of speculation in mines and in the development of new processes. The soil of California, in its early days, was not regarded as nearly so precious as it is to-day. I remember well the time when it was not dreamed that California should ever export 60,000 carloads of oranges a year. Then we prided ourselves upon being the great gold exporting center of the world. As a boy, I knew practically all of those men who did so much for the early development of our western country. I lived for a time in the house of a man whom most of you, perhaps, know only by name, who was, in his day, a very important man in our part of the country and had to do with much of our development, Mr. Ross Brown. Flood and O'Brien, Sharon and Sutro, and the men of the Comstock, all these were familiar sights to me on my way to and from school, and I looked at the palaces that they built on Nob Hill and thought that there was a possibility for me to acquire one of those palaces if I but had the adventurous spirit.

As I look over the audience I observe a man whom I am proud to honor. This last year a very great distinction came to me of which I am prouder than of anything else I have ever had. I received the degree of LL. D. from my university, the University of California, which has done so much for the development of our mineral resources and for the stimulation of our young men in the mining profession. There is a man in this audience, the oldest living graduate of the university, of the class of 1865, who also received that degree. He represents the earliest day and I represent a later day. I refer to Mr. Gardner Williams.

I know why it is that you gentlemen are so drawn to this profession. It is not the mere making of money, although that, of course, is not overlooked. It represents that spirit of adventure

which is the strongest feature of an American. I doubt if the lure of all the wealth that is to be made in Chile, or in California, or in Alaska, in China, or in South America, would have drawn out of you and your colleagues the enterprise and the imagination that you have shown. But you were drawn into this work because of your desire to discover something that man had not known before.

The prospector is not the only adventurer in mining. The man who sinks the deep shaft, who drives the long tunnel, who makes the new machine, the man who develops hydroelectric power to light and operate the mine, the man who, in the mystery of his laboratory, works out the new process, all of these are equally great adventurers seeking the novel sensation of revealing something to the world. And I hope that the department that I represent can help you in your quest. I want to see the Bureau of Mines developed into a great power, not only to emphasize to the people of the United States the magnitude of the wealth and the resources that we have in our mines, but the possibility of making the United States strong and independent and self-sufficient. [Applause.]

We want in no way to hamper the development of this industry; we wish in every way to further it. Congress has allowed the establishment of experimental stations, but it has, so far, appropriated no money for their use. Congressional procedure is somewhat slow but not at all hopeless. We will have those experimental stations. We hope to have them in the command of men of science who will be able to help you. We hope in the course of time that we may be able to develop for the mines of the West and the East just as strong a sympathy in the Government as the Government has heretofore shown for the farmer. [Applause.]

The thing that has greatly concerned me has been the confusion in the mining law. I belong to the legal profession; you are expert engineers. A more dangerous combination can not be produced. [Laughter.] If there is any combination on earth that can develop confusion and make it worse confounded, it is just that combination. And as the outgrowth of our joint enterprises, we have thrown into the law of this country a mass of intricacy which might have been avoided; the problem for us now is to get that crooked line made straight, and therefore, in advance of the publication of my report, I confide to you the fact that I have given my indorsement and made an appeal to Congress for the establishment of a commission to revise the mining laws. [Applause.]

Ten years from now, or 20 years at most, you gentlemen, I trust, will return to Washington, and you will then find a far greater interest taken in your profession, because the world will realize more fully than it does now how absolutely dependent upon the mineral products is the development of an industrial people.

The theory was, 120 years ago, that we could live well as a body of agriculturists, and that this country could be happy and maintain itself as a democracy only if we were all farmers. Some way or another, by the adventure of your predecessors, we have outgrown that idea, and the more we advance as an industrial people, the more we realize that the very foundation of our hope lies not on those things that are above ground, but on those that are under ground; and to reveal their mysteries, and all of them, will be the purpose of the department of which I am the head, if I can get the

support of the mining men of the country and the sympathy of Congress. [Applause.]

The CHAIRMAN. Gentlemen, I think we owe Secretary Lane a great debt for having enlightened us as to the course that the department, of which he is the head, is going to pursue for encouraging mining and revising the mining laws.

It is eminently fit that a new bill, just introduced in Congress, should have been introduced by a man from a mining State. Colorado is one of the earlier and one of the leading mining States, and Mr. Taylor has been the father of the bill which he will now read to you, so that you may understand the subject under discussion. This bill bears directly on the subject in hand, and it has been the outgrowth of a good deal of study on Mr. Taylor's part.

ADDRESS OF HON. EDWARD THOMAS TAYLOR, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF COLORADO.

Mr. TAYLOR. Mr. Chairman and gentlemen of the convention: This is an unexpected distinction which you are conferring upon me. I merely dropped in to listen a few moments, not to make any remarks. I have had the distinction of being a member of the Committee on Mines and Mining of the House of Representatives during the past five years, and it is perfectly natural that a man who went to Leadville, Colo., in the boom days 35 years ago, and has lived near there ever since, is interested in metalliferous mining.

I feel diffident in following the distinguished Secretary of the Interior, whom we all love and honor and feel that we have in him one of the really great men in this country at the head of that department. As he has well said, Congress is exceedingly slow, as everybody knows. You may remember that we western men worked for a great many years—attended conventions, I think, for 20 years—urging Congress to establish a department of mines and mining. We finally succeeded, about seven years ago, in getting a Bureau of Mines. Then about a year after that, to our utter chagrin and surprise, the legal department of the Government decided that the law creating that bureau did not apply to metalliferous mining at all. Then it took us about two years to amend the law to give the Bureau of Mines jurisdiction over metalliferous mining. During that time the bureau had devoted all of its attention to coal mining.

Then we started to get an appropriation to do something for the metalliferous miner. We got \$80,000 the first year and then \$100,000 the next year, and that much, I think, each year since for metalliferous mining experimentation. Then I started to get a mining experiment station in Colorado—and then several other Members put in similar bills—and finally last year we consolidated our efforts and got together and, as you know, we passed a bill authorizing the construction of 10 metalliferous mining experiment stations for scientific experimentation work in discovering processes for treating low-grade and complex and refractory ores. But the House put in a clause that not over three of those experiment stations can be established in any one year. Now, we are going to try to appropriate the money this year for the establishment of the first three. I apprehend that one of those will be in Alaska and the other two in the States somewhere. We are also trying very industriously to pass a

bill for the creation of a commission, as you know, to revise, codify, and suggest amendments to the metalliferous mining laws.

I feel that there is one exceedingly unfortunate thing, and I have never understood why that should be the condition, but it is true that out of the 14 Members on the House Committee on Mines and Mining I am the only one that comes from a metalliferous mining State. The rest of them are Representatives from the coal-mining districts. None of them are from any of the public-land States, and they naturally do not have the direct personal interest that we do in this subject.

There are at least two views about this matter. One, that is held by the chairman of the Mines and Mining Committee, and he will undoubtedly speak for himself, as I have no authority to voice his sentiments, namely, that we may have to wait a good many years before we succeed in getting a commission to revise these laws. And after we get a commission appointed it will take time for them to report, and there is no telling how much or how little attention Congress will pay to their report. Dr. Foster's idea is that if you gentlemen have any well concerted and thought-out amendments to the mining laws that would meet generally with the approval of the country, that such amendments ought to be incorporated in a bill, and by the aid of the Secretary of the Interior and the Bureau of Mines and the Commissioner of the General Land Office they ought to be promptly enacted into law. I may say that the commissioner, as you know, is a mining man from Nevada, Mr. Tollman. Dr. Foster's thought is that we ought to cut the Gordian knot by just passing the necessary laws rather than by referring the matter to a commission and waiting on the interminable investigations and then in consideration of the report. But I do not believe it is possible now to frame a bill that would meet the approval of the mining men of this country. I believe we can and should have a commission. We got a favorable report from the committee last year on my bill for the codification of the mining laws. Senator Smoot also had a similar bill, as you know, in the Senate, and he passed his bill through the Senate and sent it over to the House.

The main difference between Senator Smoot's bill and my bill is that he provided that the commissioners should be paid. That is eminently proper; they ought to be paid; but the question of what ought to be and what can be is very often two entirely distinct and different things in Congress, and after consulting with Mr. Galbraith and a number of mining men, we concluded that possibly we could get a commission of high-class men that would grant their services to the country for nothing and go ahead and make this investigation, if we provided for their traveling, clerical, and other necessary expenses. We thought that possibly men who would have the inclination and the patriotism to do this work might be found by the President of the United States to carry on this work for nothing. For that reason alone I put in the bill that the commission should serve without pay. I believe now and I believed at that time that it might aid in the passage of the bill, and I do not believe I could have gotten it reported out of the Mines and Mining Committee without that provision in it, and I have for that reason the same provision again in the present bill. The present bill (H. R. 18) I introduced

on the opening session of Congress on last Monday and it provides as follows:

A BILL To provide for a commission to codify and suggest amendments to the general mining laws.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President shall appoint a commission of five members, who shall be selected because of their recognized experience in or knowledge of the mining industry and mining law, and who shall serve without compensation.

SEC. 2. That it shall be the duty of the commission so appointed to prepare for the information and use of the President and Congress a tentative code of laws providing for the location, development, and disposition of mineral lands and mining rights in the lands of the United States, including the Territory of Alaska, as in the opinion of the commission are best adapted to existing conditions and will correct defects or supply deficiencies in existing general mining laws: *Provided*, That such code shall not deal with lands containing deposits of coal, oil, gas, phosphates, or soluble potassium salts.

SEC. 3. That the commission shall hold public hearings in the principal mining centers in the western United States and Alaska; invite and receive suggestions and opinions bearing upon or relating to existing mining laws or desirable amendments thereof; and may also consider the laws and experience of other countries with respect to disposition and development of mines and minerals.

SEC. 4. That within one year after the passage of this act, at which time the said commission shall expire, it shall submit to the President full report as to its operations, conclusions, and recommendations, including in or transmitting with said report a tentative code of mineral laws, as provided in section two hereof, and as soon thereafter as may be practicable the President shall transmit the same to Congress with his recommendations.

SEC. 5. For the payment of the actual and necessary expenses of the commission including traveling expenses, and the services of a secretary and other necessary employees, the sum of \$25,000, or so much thereof as may be necessary, is hereby appropriated out of any money in the Treasury not otherwise appropriated.

The Mines and Mining Committee thought that if we provided for the traveling and other necessary expenses of this commission and for the clerical expenses and for all other incidental expenses, but no salary, that it would assist in passing the bill. We know, probably very well, that the country is getting pretty tired of commissions. We have had hundreds of them. They are expensive luxuries and Congress is very loath to create any more, especially to give them carte blanche with a roving commission to go out and expend the public money. I have been trying to get actual practical results and trying to advance along the line of least resistance. I think I may refer for just a brief moment to the report which was made upon this same bill last May, and which was authorized by the Committee on Mines and Mining and which I had the distinction of reporting on behalf of that committee to the Congress. Secretary Lane's report on the bill, in part, says: "The codification of all laws relating to the location, development, and disposition of such mineral lands would also, in my opinion, be desirable. I believe that the investigations and findings by such a commission as is provided for in this bill would be of material value to Congress and have therefore to recommend that the measure be enacted." That is just the closing paragraph of his report. I will now read from my report a few sentences which contain the substance of the excellent reports of Mr. Kirby and Mr. Winchell, and the American Mining Congress and various other organizations. I think I have substantially expressed your concerted judgment in the following language:

COMMISSION TO AMEND THE GENERAL MINING LAWS.

Mr. Taylor of Colorado, from the Committee on Mines and Mining, submitted the following report:

For 25 years there has been a general dissatisfaction with the mineral-land laws of this country. The Interior Department has many times recommended changes. The American Institute of Mining Engineers, the Mining Metallurgical Society of America, and the American Mining Congress have all been for many years persistently urging a revision of our mineral-land laws. Protests from all over the West have been presented to Congress and various public gatherings annually, and a few isolated efforts have been made to secure relief; but no concerted or systematic effort has been made to revise, systematize, and bring up to date the mineral-land laws. Many able addresses have been delivered and profound papers read, and the mining public generally concede many evils, absurdities, and obsolete provisions in the mining laws; but no body of men has ever been authorized to revise or codify them, and the Interior Department, the Bureau of Mines, and the committee have deemed it best to recommend the creation of a commission, to be appointed by the President, of high-class men, of recognized experience in the mining industry and mining laws, to make a thorough and exhaustive investigation of this subject and report their conclusions to Congress.

It is believed that this commission should and will hold public hearings in the principal mining communities of the West and Alaska, and give ample opportunities for full expression by the public of their experience and the wisdom derived from years of observation.

While various individual bills have been introduced from time to time, the mining men of the country are apparently of—

“the conviction that no tinkering or patchwork revision can afford any perceptible relief. The present mining laws as a whole are hopelessly at variance with the geological realities of ore-deposit structure, and also with the practical operation of prospecting and mining. Moreover, their various parts are so interdependent that it is practically impossible to correct individual faults without revising them as a whole.” (Report of Edmund B. Kirby, on Mining Law Revision, at New York meeting, February, 1914.)

The American Mining Congress at its annual session held in Spokane, Wash., on November 25, 1912, appearing at pages 80 to 81 of the report of the proceedings is the following:

“ MEMORANDUM.

“The American Mining Congress, representing the mining industry of the United States and Alaska, asks that Congress shall undertake a general revision of the mineral land laws.

“ IMPERFECTIONS OF THE PRESENT LAWS.

“The mineral land laws of the United States and Alaska, framed in 1872, and interwoven with a mass of supplementary State legislation, differing in every State, fail to meet the present requirements of the industry. Moreover, they have developed various evils, the injurious effects of which are steadily increasing. These have become so serious as to retard the development of mining and to create dissatisfaction and complaint everywhere.

“At every annual session of the American Mining Congress during the past 12 years the prevailing discontent with the present code has been voiced by various resolutions calling attention to its evils and asking for the correction of this or that feature of the laws relating to mineral claims located upon the public domain. Such complaints steadily increasing in volume have found expression not only in the mining congress but also in the press of the mining communities, all the mining journals, in the societies of mining engineers, and in fact through every medium available for the expression of public sentiment. They have nevertheless been without result for the reason that the mining laws are largely interdependent, and it is difficult, if not impossible, to correct one fault without straightening out the entire code. Moreover, the States affected, some of which have often attempted to make improvements, find that nothing effective can be done without the action of Congress. In short, patchwork is impossible, and a general revision is necessary.

“DIFFICULTIES OF THE WORK.

“Since the problems involved in the work are peculiar to the industry and are unusually difficult, it is evident that their satisfactory solution will require the aid of the most experienced judgment, together with a free and direct expression of views by the mining communities themselves. Among the many questions which will arise during a revision are the following, which will illustrate the nature of the work:

“SOME OF THE PROBLEMS.

“The apex law, with the uncertainties of title and litigation caused by it. The latter includes not only the conflicts caused by the extralateral right, but also those occasioned by the consequent shapes of claims and the overlapping of lines.

“The creation of a definite procedure for acquiring rights to those claims in which the mineral is not near the surface and where discovery must in consequence be long deferred.

“Tunnel locations and the uncertainties of title caused by them in neighboring claims.

“The present nonobservance of the law of discovery.

“The partial or complete nonobservance, through various expedients, of the law of assessment.

“The location of an unlimited number of claims by one individual.

“Locations by proxy.

“REASONS FOR REVISION NOW.

“A general revision now will be particularly timely because of the public interest in conservation and the new legislation now under consideration for timber, oil, phosphate, and coal lands; also power sites. To omit the ‘mining code’ from any program for the betterment of laws relating to natural resources would be to pass by the field where relief is most urgently needed.”

Hon. Horace V. Winchell, of Minneapolis, Minn., at the New York meeting of the American Institute of Mining Engineers, last February, read a very learned and lengthy paper on the subject “Why the mining laws should be revised.” A few of the reasons which he gave and elaborated upon were in substance as follows:

(1) That the present mining law was not planned for the kind of mineral deposits or mining conditions that we have to-day; that the law of 1866 and amendatory act of 1872 applied primarily to fissure veins, and has never been adapted to the other forms of deposits.

(2) That the present law discourages prospecting and discovery and development of new mines.

(3) That one of the features of the present mining law, which seems to be not only criticized, but almost universally condemned, is the “apex” or “extralateral” right, by which the miner is allowed to follow his vein beneath the surface of land owned by another. The Hon. D. W. Brunton, of Denver, former president of the institute and also president of the American Mining Congress, in his presidential address to the latter, uses the following language:

“It is a most unusual thing for a mine to find its way into the producing stage without having to fight one or more ‘apex’ lawsuits, and all because our legislatures in 1872 gave us the most archaic law that was ever placed on the statute books. No other nation possesses such an antiquated, absurd, and irrational mining law, which, no matter what it was intended to do, has only resulted in a continued expense and annoyance to mine owners and big fees to lawyers and experts. * * * One of the most disastrous effects of this continuous litigation is to frighten capitalists away from mining investments, because observing eastern investors have learned that the discovery of a new mine carrying rich ore is almost certain to be the beginning of the most expensive and interminable litigation.”

(4) There seems to be an almost universal demand for a modification of the law that will permit of an appeal to the courts from the decisions of the land-office officials in metalliferous mining cases.

(5) A provision of the law requiring notices of mining claims to be filed with the General Land Office or some duly constituted Federal office. It is asserted that Uncle Sam has been a very careless custodian of the mining property, and

that the United States Government to-day does not possess either records or maps showing what portions of its mineral lands have been appropriated by valid mining locations.

(6) There is a wide discrepancy between the law pertaining to lode claims and placer claims. As an illustration, the law at present provides a limit to the time within which patented quartz claims may be attacked for fraud or irregularities of location, but makes no such provision for patented placer claims. Contests have been brought against placer patents 25 years after their issuance. The law should provide the same protection for placer as for lode claims.

(7) It is asserted that the present statutes are defective in permitting the location of an unlimited number of lode claims in any district and not requiring actual and useful development. Many promising mining claims, and even mining districts, have been smothered for years by this practice. Mr. Winchell also mentions many other irregularities that it would seem ought to be and would be remedied in a general mining code.

The essential features of the general mining laws of the United States were determined over 40 years ago, when the total production of mineral substances in this country did not amount to more than \$300,000,000 per year. Since that time the value of the total mineral output has increased to \$2,250,000,000 per year, a sevenfold increase. This growth has in part resulted from the discovery and the preservation of all existing rights, while providing for the easier development of the public mineral lands requires so much careful study that Congress can not afford to devote the necessary time required for the preliminary work. It is also necessary that the commission shall visit the principal mining districts and hear the views of the men actually engaged in the labor of the development and operation of mines, so that the law, when finally enacted, shall as completely as possible meet all the needs and desires of the mining population as a whole. The provision that the commissioners shall serve without compensation insures that the work shall be done with reasonable promptness and dispatch, and men of small means will undoubtedly be willing to serve on such a commission, since many such men have already devoted much time and effort to bring about a revision of the law.

The vital importance of this matter is not alone measured by the 2,300,000 men engaged in the mining industry and the \$4,500,000 worth of products which results from their labors, but rather by its effects on the whole of our people. More than half the freight hauled by our railroads is the product of the mining industry, and of the \$20,000,000,000 worth of manufactured products annually produced in this country almost the whole involves the employment of metallic mineral substances. Indeed, it may truly be said such substances perform for the commerce and industry of the Nation much the same function which the blood performs for the maintenance of the body. The committee believes that this bill will meet with the hearty approval of prospectors, miners, operators, and the people generally everywhere, and we sincerely trust that it will pass.

That is the report that we gave to the Sixty-third Congress, and we tried from May 7 to the 26th of October, 1914, to get that bill passed. On one or two occasions I thought I was going to get it considered; had it on the special calendar once or twice, but there would always be some large appropriation bill or something intervene to head it off.

I started in earlier this time and hope to push it, if possible, more vigorously. You understand there are from 30,000 to 40,000 bills introduced in each Congress. The fact that this bill (H. R. 18) was introduced within two minutes after the gavel fell does not necessarily mean that it is going to get very much start over the rest. It is only diligent pressure that brings about the passage of even the very best bills through Congress. We seldom pass more than about 2 per cent of all those 30,000 or 40,000 bills that are introduced. If you and your friends from the mining industries of this country in all of the States will correspond with your Representatives and will "press the button," as I may say, from home; if you will vigorously impress upon them the importance of the passage of this bill, we

possibly can get it through. But it does require a great deal of steam and energy to pass a bill through Congress, no matter how meritorious it may be. There are possibly from 10,000 to 20,000 meritorious bills killed every Congress. It is only those that have a very great effort behind them that can get through.

I simply urge upon you that whatever you agree upon, whether you agree to appoint a committee to go up before the Committees on Mining of the Senate and House and try to get them to agree upon one bill of amendments and then put that through this Congress, or whether you rely upon the bill for the appointment of a commission and wait for some future action of Congress, whichever measure you take you must bring pressure to bear.

And remember another thing. So far as the metalliferous mining is concerned there are only 36 of us Members from all the western mining States. On the other hand Pennsylvania has 36 Members and New York has 44. If all of us from the West pull together and do our best we are only about 6 or 8 per cent of the House. The coal-mining industry is not much concerned about this codification. They are having new regulations made by the bureau all the time, but the metalliferous miner has been treated as a kind of a step-child, a kind of an orphan out West. It is not because we are not willing enough, but we do not have the vote in Congress or the influence or power to force these matters through, and if you eastern people can bring pressure to bear on your Congressmen to help us out you will be rendering a very great service.

I want to heartily thank you for your courtesy and patience in listening to me so long. [Applause.]

The CHAIRMAN. You will agree, gentlemen, that I made no mistake when I said that Mr. Taylor was a man who had studied this subject and was a worker. The mining interests are fortunate to have such a strong advocate in Congress to push their cause, and it seems to me that every member of the various mining societies should constitute himself a recruiting officer to obtain as many volunteers as he possibly can to advance the good of the cause, and this work should not be allowed to slack.

For the purpose of comparing the bill introduced by Mr. Taylor and the one referred to as having been introduced by Senator Smoot, I am going to call on the secretary to read Mr. Smoot's bill.

A BILL (S. 52) To provide for a commission to codify and suggest amendments to the general mining laws.

Be it enacted, etc., That the President shall nominate and by and with the advice and consent of the Senate appoint a commission of three members, two of whom shall be lawyers of large experience in the practice of mining law, and one a mining engineer who shall have practical experience in the operation of mines.

SEC. 2. That it shall be the duty of the commission so appointed to prepare for the information and use of the President and Congress a tentative code of laws providing for the location, development, and disposition of mineral lands and mining rights in the lands of the United States, including the Territory of Alaska, as in the opinion of the commission are best adapted to existing conditions and will correct defects or supply deficiencies in existing general mining laws.

SEC. 3. That the commission shall hold public hearings in the principal mining centers in the western United States and Alaska, invite and receive suggestions and opinions bearing upon or relating to existing mining laws or desirable amendments thereof, and may also consider the laws and experience.

of other countries with respect to disposition and development of mines and minerals.

SEC. 4. That within one year after the passage of this act, at which time the said commission shall expire, it shall submit to the President a full report as to its operations, conclusions, and recommendations, including in or transmitting with said report a tentative code of mineral laws, as provided in section two hereof, and within thirty days from receipt thereof the President shall transmit the same to Congress with his recommendations.

SEC. 5. That each of said commissioners shall receive a salary of \$500 per month, and for the payment thereof and of the actual and necessary expenses of the commission, including traveling expenses, the sum of \$25,000, or so much thereof as may be necessary, is hereby appropriated out of any money in the Treasury not otherwise appropriated.

The CHAIRMAN. Gentlemen, now that you have heard the two bills I shall be glad to have some discussion on their respective merits, and shall be pleased, of course, to hear from anyone in the meeting.

Mr. MACBETH. On behalf of 1,100 mining men of Idaho, who are organized under an association, I desire to object to that part of the Smoot bill which leaves the codification of our laws in the hands of two eminent mining attorneys and one expert mining engineer, because we consider that in such event our last condition would be worse than our first. We desire to have that bill amended so as to permit one practical mining man to be placed on the commission instead of the two eminent mining attorneys. We do not mean to disbar both of the eminent mining attorneys; keep one of them, but give us one practical mining man and one engineer.

I believe as did the Congressman from my State; ex-Senator Hepburn, that no mining expert ever discovered a paying mine; mines have always been discovered by the prospector, and we consider that some one representing the prospector, a practical mining man, should have a place on any commission which may be appointed for the purpose of revising and codifying our laws.

Mr. CHANNING. In regard to the suggested House bill, I think it would be a proper subject for us to discuss why oil lands, phosphate lands, and similar deposits were excluded. It certainly seems to me that the necessity for determining a proper location of oil lands is of vital importance, and I fail to see why they should be eliminated.

Mr. TAYLOR. You know there is a bill pending before this Congress, which has been approved by this administration and is very near to the heart of Secretary Lane, providing for the withdrawal from entry of all coal, oil, gas, phosphates, and sodium and potassium deposits in the United States and not allowing them to be entered or patented at all hereafter. That bill, I think, is going to be pushed through at all hazards very early in this session. It was passed by the House at the last session. It proposes to put all of those substances on the Federal leasing basis. There is a very strong sentiment behind it; the conservation sentiment of the North and of the South is almost unanimously in favor of it, and, whether we like it or not in the West, and most of us do not, the fact remains that this measure is probably going to be passed. For that reason, it was deemed unnecessary to legislate upon the manner of obtaining title to those kinds of deposits, and when this bill was submitted to the Department of the Interior last year, the strongest of Secretary Lane's recommendations was that this clause should be in-

cluded, eliminating consideration of coal, oil, gas, sodium, and phosphates, and confining our inquiries to the other minerals. Inasmuch as you can hardly pass a bill through Congress at any time except by unanimous consent, we thought that if we could practically agree on the mining provisions of the bill and get that through, we should advance a long way in the right direction. Then if these leasing bills are not passed we can recommend a law later to include these other subjects.

I can probably answer a great many more objections along the same line. I may say, in reply to the gentleman from Idaho, that we thought that if we specifically designated one practical miner and one lawyer and one engineer, or if we went into details of that kind, we should meet a great deal of opposition on the floor of the House. We thought better to leave the President of the United States to use his good judgment in the appointment of the men. The bill requires that they shall be practical, but let us get away from the details and have results. There was no intention to overlook anybody. We discussed that matter a great deal and talked it over with a number of men, and we thought we had adopted a plan for which we could most easily secure approval.

Mr. THOMPSON. May I ask this question: What can we gain by this commission; what information can it secure of which the country is not already in possession?

Mr. TAYLOR. That same question is in the mind of the chairman of the Mines and Mining Committee, Dr. Foster, of Illinois. He says that mining men have thrashed out this problem for 25 years, and are no further advanced now than then. Further, if you will get together and will put your recommendations into concrete language, and let him introduce them as the chairman of that committee, we will do our level best to enact them into law. He thinks this will be better than to appoint a commission, then wait a year or two, then thrash out its report in the face of opposition, and again wait indefinitely.

Public laws must be enacted one at a time. If you could agree on any plan, or devise any code of laws which you think ought to be enacted, a code which we can harmonize in form and introduce as a bill, even though it may look like patchwork, you will have accomplished something. If we were to approve a bill, knowing that the American mining profession was unanimously behind it, I believe we could pass it more easily than a bill calling for a commission.

Mr. WINCHELL. This is just the very thing we are not able to do. We can not present to Congress, nor to the Committee on Mines and Mining, any amendment or draft of a bill and state that the people engaged in mining are unanimously in favor of it, because they do not know what they want. What does a coal miner in Pennsylvania know about the apex law in Montana? What does a placer miner in Alaska or an iron miner in Minnesota know about conditions in Tonopah? They do not encounter these questions often enough in any one locality even to permit sentiment to crystallize regarding all of the defects in the mining law. Every man engaged in mining sooner or later has an apex suit. He curses it, goes through with it, pays his expenses, and takes his losses; then he says, "Please God, I will never have another one," and he retires.

Then in another section of the country, another man has the same experience; when he gets through with it he says, "Let me get out of mining," and he retires.

Four years ago I sent out a thousand letters to mining men throughout the country. I asked them for specific and direct opinions and answers on a number of questions, and I received hundreds of replies. Those replies proved to me that instead of knowing all about mining law, the average mining man knows very little about it, and can not tell what he does know. He has never gone through the whole mill, locating a claim, getting it patented, advertising for it, engaging in an apex suit, and fighting it out through the United States Supreme Court. He may have come in at some stage of development, and have had something to do with it for a short time, but then backed out again. No commission, no individual, could in less than six months correlate the different conditions, the several classes of deposits, the divergent provisions of the mining law, and prepare a logical, simple, consistent code. That is why we are asking for a commission. You can not find any two mining men who will agree on all points, nor any two mining lawyers; I have inquired a great many times, but the lawyers themselves do not know whether such and such a principle has been upheld by the United States Supreme Court, nor whether the Supreme Court is going to overrule the Court of Appeals the next time the case reaches there. It is necessary, it seems to me, to have this matter digested and considered in the light of all the information that can be obtained, and a year is none too long a time.

Mr. KELLAR, of South Dakota. I really do not know whether I have any business here or not. I am a lawyer, but I think I can escape the animadversions of my friend, Mr. Macbeth, by pleading that I am not an eminent lawyer. [Laughter.]

So far as I am personally aware of the sentiments of my community, a little Black Hills section of South Dakota, I think there is quite a widespread demand for the revision which has been suggested by the committee of this organization, and I endorse the sentiments which have just been expressed by Mr. Winchell that the only practicable and feasible method of arriving at a solution of our difficulties is by the appointment of a commission. It is utterly impracticable, utterly impossible for this organization, it seems to me, without the expenditure of a great deal of time, to draft a suitable revision or codification of the present entanglements. It also seems to me that a very satisfactory solution of the difficulties that have been suggested will be found by adopting the bill proposed by Mr. Taylor rather than that proposed by Senator Smoot; the former provides that the commission is to serve without pay, and the chances are that the adoption of that provision will eliminate the eminent lawyers. [Laughter.]

It seems to me that all of our difficulties will be settled by uniting on the provision that the commission shall serve without compensation as a test of patriotism rather than of dollars.

Mr. TAYLOR. I understand that Senator Smoot is to be with us this afternoon, and I trust that no action will be taken, as between the two bills, until we have heard from him. I am not wedded to my bill; to me it is entirely a question of results. I have discussed this with Senator Smoot a good many times, and he feels that the

commission is entitled to pay. There is no doubt that the commissioners are entitled to pay; the only question is whether they can get it. The Senate would let them have it, but as to passing that provision through the House, this is another question. You know there are desperate claims on the Government at this time for everything under the sun. We have never in 50 years seen such demands as are going to be made on the Federal Treasury in this Sixty-fourth Congress. Hence, it is going to be extremely difficult to obtain any legislation that involves an expenditure, and I believe there is no more reason to expect this clause to be adopted by this Congress than two years ago.

The CHAIRMAN. On account of a previous engagement I shall have to ask the gentlemen to excuse me, and Mr. Ingalls will preside.

Mr. INGALLS (presiding). Mr. Winchell has explained in a very excellent manner the reason why the revision of mining laws ought to be undertaken by commission. I will elaborate his story a little further.

After he sent out some 4,000 letters of inquiry, as chairman of a committee of the Mining and Metallurgical Society, and after digesting the information that they elicited, Mr. Winchell and his committee drew up a set of resolutions which were offered to the members of the Mining and Metallurgical Society for action. That society did not dispose of the matter in any snap way. It was engaged in its deliberations for more than a year, and finally its action was taken by letter ballot of all the members.

In the first place, the council, in considering the questions which should be put to the members, found that there were certain suggestions on which it could not agree, and it had to offer alternatives. In the voting on these resolutions, thus offered, some of them in the form of alternatives, certain features were carried by a practically unanimous vote. One of these was the proposition that the mining law ought to be revised as a whole, to secure a properly formulated result, and not as a mere piecemeal, patchwork job. The suggestion that revision ought to be undertaken by commission was also carried unanimously. But there were other questions on which opinion was divided; one proposition might be carried by 53 per cent, another lost by 53 per cent, illustrating how impossible it would be for any individual, or small committee, to draft a modern mining law that would meet with general approval. That is why we wish Congress to authorize a commission to study this matter in the way it should be studied. I am sure the resolution to that effect, which will be introduced later, will be adopted, because it has already been adopted by the three national mining societies, and by nearly all of the State societies that we have heard from.

Now, why did the Mining and Metallurgical Society decide to withdraw certain of its resolutions which it had announced it was going to introduce at this meeting? Simply because it considered that those subjects were ones that would properly come within the scope of study of a commission, and that, by taking action on such matters to-day, this meeting would be anticipating the work of the commission which we hope that Congress will authorize.

These bills that have been introduced in the House and in the Senate show that important members of both of the legislative bodies believe, as we do, that there ought to be a commission. However,

these two bills possess certain radical differences, the introduction of which crystallize the issue; at this meeting we ought therefore to discuss those differences in order to aid the committees of the Senate and of the House in their consideration of these bills.

Let me point out in a few words the essential differences. Mr. Taylor's bill provides for a commission of five members, who shall be unpaid. He provides for a revision of the code, with certain reservations. It is doubtful whether the reservations inserted in this bill will do just what is contemplated. The bill stipulates that the code shall not deal with deposits of coal, oil, gas, phosphates, or soluble potassium salts. This suggests several pertinent questions. Why not saline deposits? How about deposits of rock salt? How about borax? Are these to be exempted or not? The bill does not exempt them. I presume, however, it is the intention of the Interior Department to exempt them.

The essential points of difference in these bills, however, are that Mr. Taylor provides for a commission of five members who shall be selected because of their recognized experience in one or more of the mining industries, and they shall not be paid. Senator Smoot wants a commission of three members, two of whom shall be lawyers of large experience in the practice of mining law, and one a mining engineer, and wants them to be paid.

We ought to be able to advise Congress on these subjects, and to state what the mining industry thinks about these questions. We must begin to crystallize our action by the introduction of certain specific resolutions, and I will call upon Mr. Sharpless, secretary of the Mining and Metallurgical Society of America, to introduce the resolutions which that society intends to offer at this meeting.

Mr. SHARPLESS. The two resolutions to be presented by the Mining and Metallurgical Society are the following:

Resolved, (A) That the mining law should be revised not piecemeal, but thoroughly, so as to coordinate and harmonize its various provisions.

Resolved, (B) That for the purpose of giving the fullest consideration to the needs of every branch of the mining industry and every section of the country, it is desirable that a Government commission be created by act of Congress, whose duty it shall be to investigate by every proper means the questions and interests here referred to, and to make recommendations as a basis for the proposed mining-law revision.

The CHAIRMAN. These resolutions, having been duly seconded, according to the rules of this meeting, are now referred to the Committee on Rules.

Mr. SHARPLESS. The secretary has received a number of resolutions that have been adopted by other organizations. As they are more or less similar to those that have been read I doubt if it is necessary for me to read them all in detail.

(The following resolutions, printed here in full, were presented by Secretary Sharpless in outline only:)

AMERICAN INSTITUTE OF MINING ENGINEERS.

Resolved, That the delegates appointed to the convention of the Mining and Metallurgical Society of America in Washington December 16, 1915, be empowered to act for this institute in advocating and voting for the two following resolutions:

1. The mining law should be revised not piecemeal but thoroughly, so as to coordinate and harmonize its various provisions.

2. For the purpose of giving the fullest consideration to the need of every branch of the mining industry and every section of the country it is desirable that a Government commission be created by act of Congress, whose duty it shall be to investigate by every proper means the questions and interests here referred to and to make recommendations as a basis for the proposed mining-law revision.

AMERICAN MINING CONGRESS.

Resolved, That Congress shall undertake a general revision of the laws relating to mineral-bearing lands and mineral rights within the United States and Alaska, and such revision shall cover mineral deposits of every kind except those of coal, oil, phosphates, and salines, which have been set aside as the subjects of other and special legislation.

In view of the technical nature of the problems presented by the work it is desired to secure first the results of the knowledge and experience which exists among those who are engaged in the mining industry.

To this end the President shall, within 60 days hereafter, appoint a commission of five members, who shall be selected for their recognized knowledge and experience in the mining industry.

The commission shall consider the mining laws of this and other countries, and shall hold public hearings in the principal mining centers of the Western States and Alaska, giving full opportunity for the expression of public opinion concerning the problems before it. Its recommendations shall be presented in the form of a fully drafted mining code.

Within six months after the appointment of the commission its report shall be delivered to the President, who shall, within 30 days thereafter, transmit it to Congress with his further recommendations, if there be any.

Members of the commission shall receive per diem with expenses, and shall engage such clerical assistance as may be necessary for the work.

MONTANA SOCIETY OF ENGINEERS.

This society on November 8, 1915, officially adopted the seven resolutions of the Mining and Metallurgical Society, as printed and circulated in the supplement to Bulletin No. 87 of August, 1915. These are printed in full on page 28 of this bulletin.

UTAH CHAPTER, AMERICAN MINING CONGRESS.

Whereas experience has demonstrated conclusively that the present mining laws of the United States as written, interpreted, and construed cause conflicts, disputes, litigation, and loss; do not afford sufficient and proper encouragement and protection to those who seek to develop the mineral resources of the Nation; make it needlessly difficult to obtain and hold titles to mineral lands and to obtain capital for their development; and are inimical to the best interests of the industry in other ways; and

Whereas previous efforts to obtain the legislative action necessary to correct inadequacies and evils of the present laws have failed of result chiefly because the representatives of the mining industry have not presented its legislative needs with sufficient unanimity, particularity, and vigor to the Congress of the United States and the Executive and administrative officers of the National Government; and

Whereas the subject has been thoroughly and intelligently investigated by a capable committee of the Mining and Metallurgical Society of America, which has adopted the following program recommended by said committee (here follows the seven resolutions of the Mining and Metallurgical Society of America as originally proposed); and

Whereas the said Mining and Metallurgical Society of America has called a general convention of representatives of the mining industry of the United States to meet at Washington, D. C., December 16, 1915, there to consider and act on the said program and to devise ways and means most effectively to present the desired legislative action to the Congress of the United States; and

Whereas it appears vitally important that all mining interests join in support of the movement hereinbefore set out: Therefore be it

Resolved (1), That the movement to obtain revision of the United States mining laws be indorsed and the program proposed therefor by the Mining and

Metallurgical Society of America be indorsed as to its general plan, subject to such changes as may hereafter be proposed or favored by this chapter.

Resolved (2), That the executive committee of this chapter be directed and empowered to take such steps as may in its judgment seem necessary and proper to have the mining interests of Utah represented at this convention.

Resolved (3), That the Senators and Representatives of Utah in the Congress of the United States, the governor of Utah, and the commercial and industrial bodies of the State be urged to give their fullest support to the efforts made to obtain revision of the mining laws of the United States.

PICCHE COMMERCIAL CLUB.

Whereas the Picche Commercial Club is the only commercial organization in southeastern Nevada representing a large and productive mineral area containing gold, silver, copper, lead, zinc, tungsten, and platinum; and

Whereas no one realizes more forcibly the necessity for revision, in our present archaic mining law than a man who is continually brought into contact with its vagaries and inconsistencies; and

Whereas the Mining and Metallurgical Society of America is about to meet in convention, with the object of impressing upon Congress the necessity of revision;

Resolved, That we most earnestly urge all who are interested in mines or mining to exert themselves to their utmost to secure the passage of a bill during the forthcoming session of Congress providing for a competent commission to investigate the matter thoroughly, and draft a modern set of laws, conducive not only to the promotion of mining but also to the adequate protection of mining rights; and

Resolved, That a copy of these resolutions be sent to the Mining and Metallurgical Society of America, to be read at their meeting at Washington, and that copies be also sent to our Senators, Hon. Francis G. Newlands and Hon. Key Pittman, and to our Representative, Hon. E. E. Roberts.

SPOKANE MINING MEN'S CLUB.

[Resolution offered by Delegate Frank A. Ross.]

Whereas the mineral-land laws of the United States and Alaska, framed nearly 50 years ago, are unsuited to present needs and have developed various defects and evils that seriously retard or wholly prevent the development of our mineral resources; and

Whereas in consequence of this recognized failure of present United States mining laws adequately to meet present requirements, there is everywhere among mining men a pronounced and growing dissatisfaction; and

Whereas owing to the thoroughness with which the surface of our older mining districts has been prospected, the discovery of new, valuable, and usually more or less deep-seated mineral deposits is daily growing more difficult; and

Whereas those States that have endeavored to correct certain flagrant defects in the said United States mining laws have found patchwork legislation to be impracticable and that nothing can be done effectively without action of Congress; and

Whereas many unsuccessful attempts have been made in the past to interest Congress in this most important matter of mining-law revision;

Resolved, That it is the conviction of this representative body of mining men, in convention duly assembled, that any further delay on the part of Congress to take definite action in regard to a comprehensive revision of United States mining law must inevitably work great hardship upon the mining industry as a whole and may even threaten its future. Consequently the convention hereby petitions that this Sixty-fourth session of Congress appoint forthwith a mining law commission of not less than five prominent persons, closely and actively identified with the mining industry and thoroughly competent to take evidence in the principal mining centers of the United States and Alaska over a period of not less than one year, and afterwards to work out for presentation to the next session of Congress an harmonious and thoroughly coordinated code of mining law that shall best serve and safeguard the present and future interests of all concerned.

Resolved, That it is the sense of this convention, first, that the said commission should consist of at least one business man, one mine operator, one mining engineer, and two mining lawyers, each of acknowledged ability and sound judgment.

Second. That the members of this commission should receive such adequate compensation for their services as would justify them in devoting their entire time and energies to the solution of the numerous problems involved.

Third. That the commission should have power to avail itself of all possible sources of information, aid, or legal counsel.

Fourth. That always in taking evidence, as well as in drafting a new code, the commission should keep before it the following fundamental desiderata:

(1) Reservation of all minerals in pending or future patents for agricultural and timber lands and all minerals but stone in stone-bearing lands, with adequate provision for locating and working the same.

(2) Abandonment of the extra-lateral right in favor of the square location and vertical planes through the boundaries thereof, each claim to be 1,500 feet square.

(3) Creation of a definite procedure for acquiring mining rights where mineral does not appear on the surface, and, therefore, where discovery may be long deferred.

(4) Definition of the term "placer" to include deposits of natural water-washed material lying above solid bedrock; also the establishment of a reasonable period of years beyond which placer patents shall be immune from attack on the ground of fraud; also the establishment of a preference right by which a placer owner may locate any lode or lodes that may develop on his placer claim.

(5) Provision for locating and working petroleum, phosphates, rare earths, and other economic minerals and deposits that are not specifically mentioned in the present statutes.

(6) Provision for the establishment of some competent court of law before which contest cases between rival claimants may be tried and to which appeal may be had from decisions of the Interior Department, the said court to be a court of last resort.

(7) Provision for a radical change in the method of staking claims.

NOTE I.—For instance, over the ground he wishes to locate the locator should be required to brush, blaze, or monument a straight base line not more than 1,500 feet long, horizontal measurement, at either end of which shall be erected a permanent monument of suitable material upon which shall be posted, carved, written, or otherwise preserved the name of the claim, together with specifications as to the number of feet claimed on each side of said base line and at right angles thereto, the sum of the distances on both sides of the base line not to exceed 1,500 feet; priority of date of officially recorded notice of any location shall determine ownership in cases of overlapping claims; and no title shall vest in a locator until such notice is recorded, after which copies thereof shall be posted on the terminal monuments and be kept renewed; consequently the present statute requiring discovery of mineral before location should be abandoned in favor of open location, safeguarded by requirements sufficiently severe to prevent the holding of ground for purposes other than that of bona fide mining.

NOTE II.—Immediately upon the filing for record of any location notice the recorder should give the entry a serial number, which, together with the name of the recording office and claim, shall be printed or painted on metal or cloth and be posted upon the terminal monuments of each claim.

The reasons for this numbering and posting of claim locations are two—first, to facilitate examination of the records both as to ownership and the performance of required work, and, second, to serve as public notice of ownership to those seeking easements over or through the ground in question.

(Under the present loose system of locating, monumenting, and recording it is practically impossible, in many instances, for electric-power companies to discover the owners of land over which transmission lines must pass on their way to the mines; consequently, damage suits that amount to blackmail are by no means rare, and power companies suffer heavily, all of which operates as a burden upon mining.)

(8) Survey of a claim and the establishment of the boundaries of the claim by setting of supplementary corner posts shall be required within a reasonable time after the official recording of the location notice, the cost of same to be credited to the account of assessment work.

(9) The cost of building practical and valuable roads and trams shall be credited to the account of assessment work.

(10) The performance of actual assessment work, or its equivalent, as above, shall be sworn to and recorded.

(11) Existing titles shall be reaffirmed and fully recognized and no effort shall be made to create retroactive legislation.

(12) Finally, the commission shall seriously consider the present laws of British Columbia in drafting a new code, applying proper remedies for such minor defects therein as are now recognized.

(It was moved, seconded, and carried that the resolutions as outlined by the secretary be referred directly to the committee on resolutions.)

Mr. FRANK A. ROSS. With reference to the resolutions offered by the Spokane Mining Men's Club, I have only one thing to say, and that relates to the attitude of the mining men of the Northwest. When Mr. Sharpless first communicated with us, asking our cooperation and that we send a delegate to this meeting, the idea was turned down completely. We refused to consider it, for the simple reason that there have been so many failures to get satisfaction out of Congress that we had lost heart and faith. Our association is composed of active men in British Columbia, all of Washington, and part of Oregon, quite a representative association of mining men. However, when I had explained to our association that this was to be a different kind of affair, a meeting of men who really knew all of the procedure, all of the steps in the taking up of mining ground, and that they were mining engineers and mining operators of experience, our members changed their minds and sent me here to represent them.

I came here feeling that our reason for coming was to impress Congress by our presence. I understood that former addresses which have been made to Congress had failed for lack of representation. After listening to Secretary Lane and to the very practical discussion by Mr. Taylor and Mr. Winchell, there is absolutely nothing to be added as to the necessity for revision. It therefore seems to me that we must bow to the custom of Congress and do what we can by our presence to encourage the investigation of the subject at this session.

Mr. WINCHELL. I do not know whether this is exactly in the form of a resolution, but I wish to make a motion, which, perhaps, ought to be considered by some committee at this time. My idea is that this conference ought not to meet, pass resolutions, and adjourn without making provision for carrying on this work along the lines suggested by Representative Taylor. We know from past experience that we can not merely ask Congress once and leave our plan with them to carry out. We must exert pressure by means of constant reminders. This we can do through proper organization and judicious use of our membership in the various mining societies. Therefore I should like to present this motion for the consideration of the meeting:

I move that this conference express itself in favor of the creation of a permanent committee on mining-law revision, such committee to consist of five members from the Mining and Metallurgical Society of America, five from the American Institute of Mining Engineers, and five from the American Mining Congress, the members to be appointed by these respective organizations; such committee

to have the power to select its own chairman and secretary, and to add to its membership not more than ten additional members interested in the subject for which the committee is created. The work of the committee shall be to further the interests of the mining industry through congressional legislation in accordance with the resolutions adopted at this congress, and its joint report shall be presented to each of the societies formally represented in its composition.

I do not ask the creation of this committee at this time, because it is now in order for each of the organizations whose membership will go upon the committee to create its own committee and instruct it to cooperate or form a part of this joint committee.

Mr. THOMPSON. I should like to ask Mr. Winchell if it would be in accordance with his ideas that the membership of that committee should be less than a possible maximum of 25? This seems to me to be an almost unmanageable number. Merely as a suggestion, would not three from each society be a better number?

Mr. WINCHELL. My idea is that each national organization would like to have on the committee members from certain sections of the country. If you limit the number to three you can not so well represent the mining community as a whole. We can do the work much better with a smaller committee, but it would perhaps be more representative if selected from membership throughout the country.

The CHAIRMAN. You have heard the motion offered by Mr. Winchell, which has been duly seconded. That motion is one which might be put immediately to this meeting and not necessarily referred to the committee on resolutions. However, inasmuch as the committee on resolutions might, with more leisure, suggest some improvements in the language, it may be advisable to consider this motion as a resolution and refer it to the committee, and with the consent of Mr. Winchell it is so referred.

I think it would be desirable also if this meeting should now authorize the committee on resolutions, on its own account, to formulate resolutions pertinent to the subjects that we are discussing, and introduce them at a later session.

(A motion to that effect, made by Mr. Stone, was seconded and carried.)

Thereupon, at 12 o'clock, recess was taken until 2.30 p. m.

AFTERNOON SESSION.

The convention reassembled at 2.30, W. L. Saunders presiding.

The CHAIRMAN. We have this afternoon as the first speaker a United States Senator who has done more for the movement that has brought us here than perhaps anyone else. It was Senator Smoot who introduced a bill in the last Congress, and practically the same bill has been reintroduced, and, I understand, has passed. It gives me great pleasure to introduce Senator Smoot of Utah.

Senator SMOOT. What I have to present this afternoon will be very brief indeed. I desire simply to call your attention to some of the conditions that, in my opinion, should be considered at this meeting, and certainly will be considered if we are fortunate enough to obtain a commission for the purpose of codifying and amending the mining-land laws of the United States.

For at least 12 years past there has been a pronounced discontent with the present code of mining laws, and that discontent has been voiced by resolutions calling attention to the evils and asking for the correction of this or that feature of the laws relating to mineral claims located upon the public domain. Complaints of this sort have increased in volume and have found expression not only in mining congresses but also in the press of the mining communities, in the mining journals, in the societies of mining engineers, and, in fact, through every medium available for the expression of public sentiment. Up to the present time they have been without result, for the reason that the mining laws are largely interdependent, and it is difficult, if not impossible, to correct one feature without striking out the entire code. Many of the States affected have tried to make improvements, but found that nothing effective could be done without the action of Congress. I myself have attempted to correct a number of the evils of the present mining laws by the introduction of bills in the Senate, and have found it impossible to secure action. One of the main reasons given me was that our mining laws should be revised not by piecemeal, but by a thorough and complete codification and revision.

I became convinced that patchwork was impossible and general revision was absolutely necessary. All of the problems in such an undertaking are unusually difficult. It is evident that a satisfactory solution will require the aid of men of experience and judgment, together with a free and direct expression of views by the mining communities themselves.

I fully agree with the opinion of your committee as it has been submitted to me by many societies and organizations throughout the country, and particularly by the capable committee of the Mining and Metallurgical Society of America, whose program, as I understand, is as follows:

1. The mining law should be revised not piecemeal, but thoroughly, so as to coordinate and harmonize its various provisions.

2. A statute of limitations should establish a reasonable term of years, beyond which placer patents shall be immune from attack on the ground of fraud.

3. Full privilege of appeal to some competent court of law should be provided for in all cases of contests between rival claimants or between a locator and the Government.

4. Notice of mining locations should be recorded as to give the fullest possible public notice.

5. The apex law should be abolished.

6. Existing titles should be reaffirmed and fully recognized, and no effort should be made to create retroactive legislation.

7. For the purpose of giving the fullest consideration to the needs of every branch of the mining industry and every section of the country it is desirable that a Government commission be created by act of Congress whose duty it shall be to investigate by every proper means the questions and interests here referred to and to make recommendations as a basis for the proposed mining law revision.

Recommendation No. 5 provides for the abolishment of the law of the apex. For 10 years I have been working to secure the repeal of that law, with its uncertainties of title and its prolific causes of litigation. If I had the time I could point to unnumbered cases where that law has been the means of prohibiting the thorough development of great mining camps in this country.

It is unjust, and it has been a grievous burden for the mining industry of this country to bear. [Applause.] Still other reasons for desiring the repeal of the apex law, in addition to the conflicts caused by extralateral rights, are the difficulties occasioned by the consequent irregular shape of claims and the overlapping lands.

I would also like to provide for—

(1) "The creation of a definite procedure for acquiring rights to those claims in which the minerals are not near the surface, and where discovery must in consequence be long deferred." If the ruling of the Land Department as enforced to-day had been enforced 20 years ago, two of the largest mining camps of my own State would lie as they then lay, a waste; and the revised law should certainly provide against contingencies of that nature;

(2) Tunnel locations and the uncertainties of titles caused to neighboring claims thereby involved;

(3) The present nonobservance of the law of discovery;

(4) The partial or complete nonobservance, through various expedients, of the law of assessment;

(5) The location of an unlimited number of claims by one person; and

(6) Locations by proxy.

I can point to mining districts that have been held for years and years by what I may term the dog-in-the-manger prospector. He and his particular friends locate the claims on the 1st day of January and relocate them from one year to another, and never spend 5 cents on them beyond the expenses for location notices.

That practice should cease; and men who are willing to risk their money in developing a new camp, or in exploiting to a larger degree the camps already established, ought to have the right to do so, and they ought to have it under the law. A man should be compelled to spend his time or his money in the development of any claim that the Government grants to him.

Being convinced of the absolute necessity of change in our mining laws, some years ago I introduced a bill in the Senate providing for a commission to codify and suggest amendments to the general mining laws. That bill provided that the President should appoint a commission of three members, one of whom should have practical experience in the operation of mines; one should be a lawyer experienced in the practice of mining law; and the third a member of the United States Geological Survey.

Objections were raised at once. I received letters from all over the United States suggesting that that commission should be increased to five, and that two of the five should be practical mining men; that one of them should be a lawyer experienced in the practice of mining law; that one should be a member of the United States Geological Survey, and one a member of the Bureau of Mines. When I undertook the introduction of an amended bill embodying those suggestions, I found the committee disposed not to grant the increase. Among other objections were the added expense, and the misgiving that the committee would be so large that it would be cumbersome, and would not do the work so well as three members.

I accepted the suggestions of the Committee on Mines and Mining of the Senate, that the commission should consist of but three mem-

bers, and that bill was reported favorably by the committee. But, owing to the congestion during the last session of Congress, when the ship purchase bill was under consideration, this bill, with many others, fell by the wayside. On December 7, this year, I introduced a bill in the Senate (S. 52) for the same purpose, reading exactly like the bill that was reported by the Committee on Mines and Mining in the last session of Congress; and I have the pleasure of informing you to-day that the committee has again acted on that bill; it is now upon the calendar of the Senate, and I assure you, gentlemen, that the very first day that the calendar is reached that bill will pass the Senate.

I have every confidence that the bill will become a law at this session of Congress. In fact, if promises that have been given me by Members of the House are fulfilled, there is no question about it. The Secretary of the Interior is in favor of it; the administration is in favor of it. I have confidence that the President will appoint as members of the commission, if the bill does become a law, men prominent for their knowledge in mining law and in the operation of mines. They should be versed in the prospecting of claims, in mining operations, in mine litigation, and in the history of mining laws. They should invite opinions from the public bearing on the points at issue, and the experiences of other mining authorities should also be consulted. Finally, the recommendations of the proposed commission should be unitedly supported by the Mining and Metallurgical Society of America, the American Institute of Mining Engineers, the American Mining Congress, all organizations working for the further development of the mining industry, and all communities in which mining forms a part of its industrial activity. Do not allow any lack of harmony to prevent the ultimate success for which you are struggling to-day; with united efforts, I feel assured that it will not be many years before our mining-land laws will be codified and amended in such way that the industry will go forward in the future with greater strides than it ever has in the past.

There is one further subject to which I wish merely to refer, and I hope to do it with my usual calmness, although I must admit that I sometimes lose my patience while considering the question—that is, the question of leasing. You may say that this question is not being discussed now, but I hope and trust that every man interested in the development of minerals will take notice that there is a growing feeling that the production of the minerals of this country will be best served and best regulated by a leasing system. We find it now in control of our water powers in the West; it is now proposed for all the public lands of the West; and if this proves successful, I expect to see the same method applied to the mineral lands of the United States, all initiative to be controlled, regulated, and directed from the bureau here in Washington. I earnestly wish that the people of this country knew what is being undertaken at this time. Are we to become a community of tenants? Is our Government to be a landlord? I beg of you, my friends, that wherever this proposal is brought to your notice, particularly as applied to the development of minerals in this country, you will fight it. As I look at the western country and I observe the regulations that have been put into force for the withdrawal of mineral lands under the pretext that they are

forest reserves, I can see that the development of minerals in this country is not going forward as it should; and this is going to have an effect upon the commerce of the United States, for that which is produced from the ground is the very life blood of commerce. When men are compelled first to locate their land, and then to comply with the necessary laws of assessment; when they risk all that they have, and all they can persuade their friends to give them, in order to prove their theories that there is mineral in a small piece of ground, it ill becomes anyone, particularly our Government, to say, "If you lose everything, that is your business, but if you are successful, we will take charge of it, we will put our hand upon it, and take from you your gains." Such gains rightfully belong to the men who not only made the sacrifice but took the chances of losing all they had. [Applause.]

But what we are all interested in now is the codifying and amending of the mining laws of the United States. I believe that we are going to be successful, and I wish to say to the members of this convention that if I can do anything to assist in bringing about the consummation of that desirable end, it will give me great pleasure, and I shall feel amply repaid for all the time I have given to this problem if I can get that commission appointed and to work.

I thank you for this opportunity. I wish this convention unbounded success in its endeavors, and I hope that what is said here may be the means of bringing the mining interests of this country closer together, that their labors may be more united than they have been in the past, and that this great industry will be restored to the position it has held in former years, being one industry that never fails the country in time of peace nor in time of war. [Applause.]

The CHAIRMAN. Senator Smoot, I am sure I express the sentiment of the delegates when I say that we are deeply indebted to you for your most interesting and valuable address. May we impose upon you a moment to ask if you will be good enough to explain to the delegates the difference between the two bills relating to this subject that are now before Congress?

Senator SMOOT. I have not read Mr. Taylor's bill (H. R. 18), which was introduced on December 6, 1915, but I take it for granted that it is about the same as the one he introduced last year. The bill that I introduced provided for a commission of three members, while the House bill provides for five members. The requirement of the House bill is this: That these commissioners shall be selected because of their recognized knowledge of the mining industry and mining laws, and shall serve without compensation. My bill calls for a commission of three, two of whom shall be lawyers of large experience in the practice of mining law, and one a mining engineer, who shall have practical experience in the operation of mines; their compensation is to be \$500 per month, and the bill carries an appropriation of \$25,000 to pay the salaries of the commission and their traveling and clerical expenses.

I discussed the question of compensation with the Secretary of the Interior, and came to the conclusion that it is not proper to limit the choice of commissioners to men who can afford to give their time, and pay the expenses that will be absolutely necessary for gathering the required information. The Government of the United States is not so poor as yet that it can not pay \$25,000 to help an industry

which turns into the commerce of the world, and particularly into our own country, the very blood that gives it life. The information is to be gathered for the Government's benefit, and I think beyond all question that the commissioners should receive reasonable compensation for the services rendered. The House bill provides an appropriation of \$25,000 for the payment of actual necessary expenses of the commission, including traveling expenses, and services of a secretary and other necessary employees.

I went into this question with Mr. Kirby, then chairman of the committee on mining laws of the American Mining Congress, and we discussed the desirability of paying anything. We held a consultation with the Secretary of the Interior and came to the conclusion that \$25,000 was ample to pay the necessary expenses, and so it will be if you put some practical hard-sense men on that commission.

The chairman of the Committee on Mines and Mining of the Senate, Senator Walsh, of Montana, has studied the question just as deeply as I have, though perhaps not quite so long, and it was through my deference to his opinion that our bill authorizes the President to appoint lawyers of large experience in the practice of mining law as two of the commissioners. If you consider some of the mining attorneys of the West, those who are eminent, you will often find that they are very practical about the operation of mines. I think I would take the opinion of Judge Dixon, of Salt Lake City, as to the likelihood of establishing a mine at a given place as readily as I would that of any man except possibly a geologist of great renown. Men of such eminence as Judge Dixon have not only a comprehensive knowledge of the mining law, but they have acquired a comprehensive grasp of geology and mining as well. It was for this reason that Senator Walsh thought that there should be two men of that character and one of practical experience.

As between the two bills there is so little difference that it will never do, gentlemen, for you to become divided upon them. I do not care whether you approve my bill or Mr. Taylor's bill; all I want is results and the passage of some bill. I am afraid we can not pass Mr. Taylor's bill in the Senate. I know that we can pass my bill, but rather than have any disunion in this connection, I would a thousand times rather have you approve the House bill and adopt it as your opinion rather than to have the least friction.

The CHAIRMAN. Senator, if you will permit me to ask you one more question, I think that in Mr. Taylor's bill, section 2, an exception is made of coal lands, while no exception occurs in your bill. Will you be good enough to give us the reasons for that?

Senator Smoot. I have not discussed that matter with Mr. Taylor, and therefore would not say what his reasons are, but my opinion is that this commission ought to make an investigation of coal mining in the United States. It should be asked to make recommendations respecting the coal laws of the United States, Alaska, and the Territories, which ought to be amended. In fact, the late Director of the Bureau of Mines, Dr. Holmes, discussed that question with me many times; he was of the opinion, as were all of the Members of the Senate to whom I have talked, that the proposed inquiry should include coal lands. Coal mining is one of the greatest industries in the country, and I think it deserves examination just as much as any of the others.

Whatever this convention finally decides upon will have great weight, I believe, in the consideration of bills by the Senate and perhaps in the House. I know that you have no other ideal but to do that which is for the best interest of all, and, knowing that, I have absolute confidence in your judgment in the justice of the final conclusion to which you arrive.

Mr. W. R. INGALLS. This morning, following Mr. Taylor's reading of his bill and his remarks on the subject, we had quite an interesting discussion of many of its provisions, especially those wherein it differs from the bill that Senator Smoot has introduced. I expressed the opinion that Mr. Taylor's exception of coal land, oil land, and some other classes of deposits, might not, with the language in which it is phrased, accomplish just what is intended. During the noon hour some of us had further discussion on the subject, and, taking it up in an offhand way, none of us thought of any cases wherein metalliferous deposits and coal beds, or oil and gas deposits, overlap. Maybe they do, but we could not think of any case. However, there is one case of overlapping that would come absolutely within the language of Mr. Taylor's bill; I refer to phosphate land. Cases are known where phosphate minerals and metalliferous minerals occur in conjunction and are worked conjointly.

Mr. Winchell mentioned a case of that kind that occurred in Utah. I believe there are mines in northern New York that are worked primarily for iron, but have a phosphate gangue, which is discarded in the tailings and is sold as a commercial product.

One of the most famous cases of litigation that this country has known—a litigation which far antedates all of the litigation over the apex law—arose in a case where a person deeded one kind of mineral in a vein to one man and another kind of mineral in the same vein to another man. I refer, of course, to the zinc-ore deposits in New Jersey. The case of overlapping of metalliferous and phosphatic deposits manifestly requires some attention to that part of the phraseology of Mr. Taylor's bill. If an exception is to be made in either of these bills, the language of the excepting clause needs to be carefully scrutinized. Congress needs at once the opportunity to obtain expert advice such as this meeting can give.

Mr. JENNINGS. I would like to point out that quite recently it has been shown by some officials of the Bureau of Mines that the tailings from the large disseminated porphyry deposits of Utah and Arizona contain sufficient potash to become commercially valuable if a process could be found to extract it. Several chemists have already been put to work to find such a process. The question then arises, To whom shall that potash belong? The law governing the location of potash minerals is to be different from that which is applicable to copper; which is the mineral originally intended to be economically worked. I also have the impression that in some parts of the world they mine coal and gold from the same shafts. This is the case in the Transvaal, where, from the same shaft, coal and gold ore are hoisted. The coal beds have been developed in upper levels while the gold occurs in the banket formation at a lower horizon. It is quite possible that a similar condition may some day be found in the United States.

I would therefore suggest that if any exclusion is to be made the language of that exclusion should be carefully scrutinized, but I

would much prefer to see no exclusion, because I can conceive no reason why the laws governing the location of coal, oil, gas, and soluble potassium should not be considered as embodied in the same codification that this commission is to bring to the attention of the Government.

The CHAIRMAN. There being no further discussion on this subject, the business of the meeting will continue. Dr. George Otis Smith, Director of the United States Geological Survey, has kindly consented to address us on the subject under discussion, the general subject of revision.

Dr. SMITH. "Enough has, I think, been adduced to prove that the present law is vicious and inexpedient, that its provisions bear hardly upon the mining industry, and that it ought to be either repealed or essentially amended."

These words, Mr. President, are not my own. That sentence was pronounced upon the mining law by a mining engineer in Montana before I was born. He continued his discussion of the conditions as they existed in his day by using the same terms—"uncertainty of title," "fear of litigation," and "blackmail"—which we have heard from this platform to-day.

The problem was much the same then as now. He suggested as the remedy the appointment, under authority of Congress, of a commission which should visit the mining districts of the West, take testimony, and investigate the subject in all its bearings and report to Congress a mining code. In the intervening period we have had this program before us, and now this conference is for the purpose of trying to accomplish the same things that was recommended by a Montana mining man in 1868.

Reference was made this morning to the conditions under which the mining laws of 1866 and 1872 were passed. Conditions, as I understand them, were not favorable to the passage of a comprehensive bill. It was to the credit of the sponsors of the mining law that they secured a sufficient hearing in Congress to enact the legislation that is even now on the statute books. The law was not ideal and is less ideal at present. It was not well balanced and it was lacking in detail. I noted the way in which Judge Lindley—probably our best student of the varying decisions based on the mining statutes and the best authority on the mining law—summed up his statement regarding the law of 1872, which unfortunately is the law of to-day. He concluded in these words:

In many of its most important features we have conflicting theories enunciated by different courts of equal dignity and equal ability until we are almost constrained to say that "chaos has come again."

In this period, since 1872, we have seen the development of the mining industry of this country. Then it was an infant industry; lusty enough, however, to secure some recognition in the Halls of Congress. To-day it is a mother industry, upon which other industries depend in large part. You well know, Mr. President, to what extent the mining industry, the mineral products, and the manufactures thereof play a part; not only in the internal commerce of this country but in international commerce. In the past two decades a change has occurred in our foreign trade, from the exporting of agricultural products, which amounted to the larger part of the value,

to the exporting of mineral products and their manufactures, which to-day—not only under the exceptional conditions of this year but in normal years—constitute nearly half of the value of our exports.

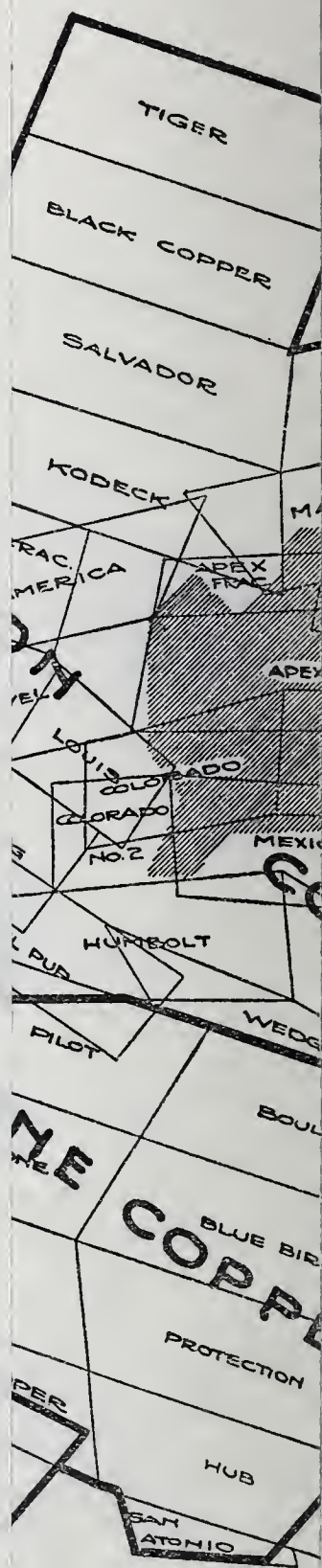
In that period we have seen metal mining increase. In 1872 the gold production of the country was only 40 per cent of what it is now. In 1872 the silver production was less than one-third of what it is now. The lead produced was only 8 per cent of the present production; zinc about 5 per cent of the present output; and when we come to copper, in 1872, the annual production was only $2\frac{1}{2}$ per cent of what it is at the present time. Those figures present a plain statement of the growth of the industry of metal mining in this country. Not only has this been a period of marvelous industrial advance, but that advance has been based upon a large increase in the knowledge of the geology of ore deposits and of the technology of mining and metallurgy. These advances have furnished the basis for the advance in the mining industry; yet no change in the mining law.

So we now come to the year 1915 with the laws of 1872. The purpose of that law was development, and no change is needed in purpose, only new methods are needed to enforce that purpose. The old law has broken down at many places under the strain of conditions that could not be foreseen 40 years ago. I do not know that those of us of this present epoch can claim that we have any vision of a new heaven and a new earth, but we of this later generation surely see a new metallurgy and a new geology. We know that the waste rock that was thrown away, or that was left unmined only a few years ago, is the ore of to-day. We know that deposits of a character never dreamed of several decades ago are now the deposits that pay the large dividends. I have in other places confessed to being somewhat of an optimist. If we think of the mining industry of this year which has seen so much of prosperity in the metal mining—in the mining districts of the West—I think we all can afford to be optimists.

This morning you heard Mr. Kirby sketch some of the early days of the mining industry. It may have occurred to you, as it has to me, that there is a significance in the fact that even the steps in the evolution of civilization bear mineral names—the stone age, the copper and the bronze age, the iron age, and as some one has termed the present day, the coal age. The significant thing, I believe, is that the year 1915 shows that we are not only using a larger per capita consumption of coal, to which you, Mr. President, called attention at a recent meeting of engineers, but we are also consuming more iron, more copper, and even more stone than in any other age since the dawn of civilization. It is because of the recognition of the extent to which modern civilization rests upon the mining industry that we are assembled, as I understand it, to ask for a modern code of laws to assist, and not to obstruct, the utilization, by modern methods, of these great mineral resources with which this country has been blessed. [Applause.]

The CHAIRMAN. Dr. Smith holds a very distinguished position in the Government; a position which he has filled with great honor, and I am sure that what you have said to us, Doctor, is very much appreciated.

We have with us Mr. J. Parke Channing, who has had considerable experience in the subject we are discussing. Mr. Chan-



ning's position has been rather unusual, in that he has participated in the abandonment of the apex law by mutual consent of adjoining operators.

Mr. CHANNING. Although the law of the apex has been the law of the land since 1872, a great many mining operators have not been able to carry on their work under its provisions. It has been the custom if a man purchased a claim or a mining property which had the outcrop of a vein for him to protect himself by acquiring those claims which lay on the hanging-wall side, so that he did not have to rely on the laws of the apex for extralateral rights. I think, also, in certain districts, notably Leadville, in the early days, it was decided that on very flat deposits the law of the apex should not hold.

As you know, the law of 1872 was based on a very naïve theory that a vein was a beautiful and regular thing which dipped down into the ground something like this sheet of paper. Such, however, was not or is not the case; and in later years, as the richer fissure veins have been exhausted and we have been under the necessity of mining large and low-grade masses of ore, the conditions and rules which applied to this older form of mining would be absolutely inapplicable to the new deposits.

My own particular experience, to which I wish to call your attention, was gained in the Miami district of Arizona. Previous to 1906 work was done in the southern part of the district upon certain narrow veins of rich copper silicate ore which dipped to the north, and the adjoining country to the north showing more or less mineral indications was located. Certainly there was mineral in place on these northern claims; whether it was valuable or not no one could say. During 1906 or 1907 certain work showed that there existed what was then considered low-grade copper ore, running 2 or 3 per cent, which instead of being in veins was in the shape of huge masses. These were developed by shafts, drifts, crosscuts, and later on by drill holes. Roughly speaking, the Miami district was then taken up by four different large companies, which were known as the Miami, the Inspiration, the New Keystone, and the Live Oak. The district was covered with numerous claims, 1,500 by 600 feet, a great many of them simply locations by the prospectors, in which the boundaries were inaccurate and the corners badly located.

The first thing that the large owners did was to determine what their surface boundaries were. It was done amicably. Records were investigated, testimony was taken informally, not before any judge, and the best boundary which could be determined was fixed upon. If there were overlapping claims, where it was impossible to decide who was the owner, then the Gordian knot was cut by simply drawing a line through the middle of the ground and giving one-half of the claim to one company and one-half to the other.

Finally, without any litigation whatever, the surface boundaries of these four properties were adjusted to the satisfaction of everybody. Development continued on the ore, and it was soon found that in two or three cases the body of ore extended across the boundaries, so that the same mass of ore was partly within the ground of one company and partly within the ground of the other company. There were murmurs in the air of invoking the law of extra-lateral rights. One of the most noted mining lawyers in the country advised his clients that he thought such a thing was unde-

sirable, that it would lead to fruitless litigation, and that he doubted whether either side could prove an apex or enforce extra-lateral rights.

These four companies then finally got together, and by a series of legal documents drawn by the various attorneys agreed that they would respect vertical boundaries in mining their ore; in other words, that the same law which is applicable in Michigan as to iron and copper would apply in Arizona. This agreement was made at least four or five years ago. Further than that, between two of the companies agreements have been made as to the exact method of mining the ore upon the boundary to their mutual advantage, so that the one getting there first would be able to take out his ore and yet not damage that of his neighbor.

This is a simple statement of what has occurred. I shall throw upon the screen some slides which show the enlarged surface map and will also show the various plans of the main ore body of the Miami Copper Co., showing that it would be physically and practically impossible to apply to it the law of the apex. I will also show you some views of the open pits of some of the larger so-called porphyry coppers, which are mined by steam shovels, and it will be obvious to you that properties of this kind could not be economically operated under the law of the apex.

You will observe on the large map that the eastern or right-hand side of the Miami Copper Co. holdings is not covered by mining claims. This was taken up by us to give us the necessary ground upon which to locate a concentrator and power plant, and to pile our tailing. This was nonmineral land and, although covered with sagebrush, was within a forest reserve. One of the last acts of Gifford Pinchot, I believe at the very time that the cabinet was discussing his dismissal, was to have an order issued eliminating this land from the forest reserve so that we could acquire title to it.

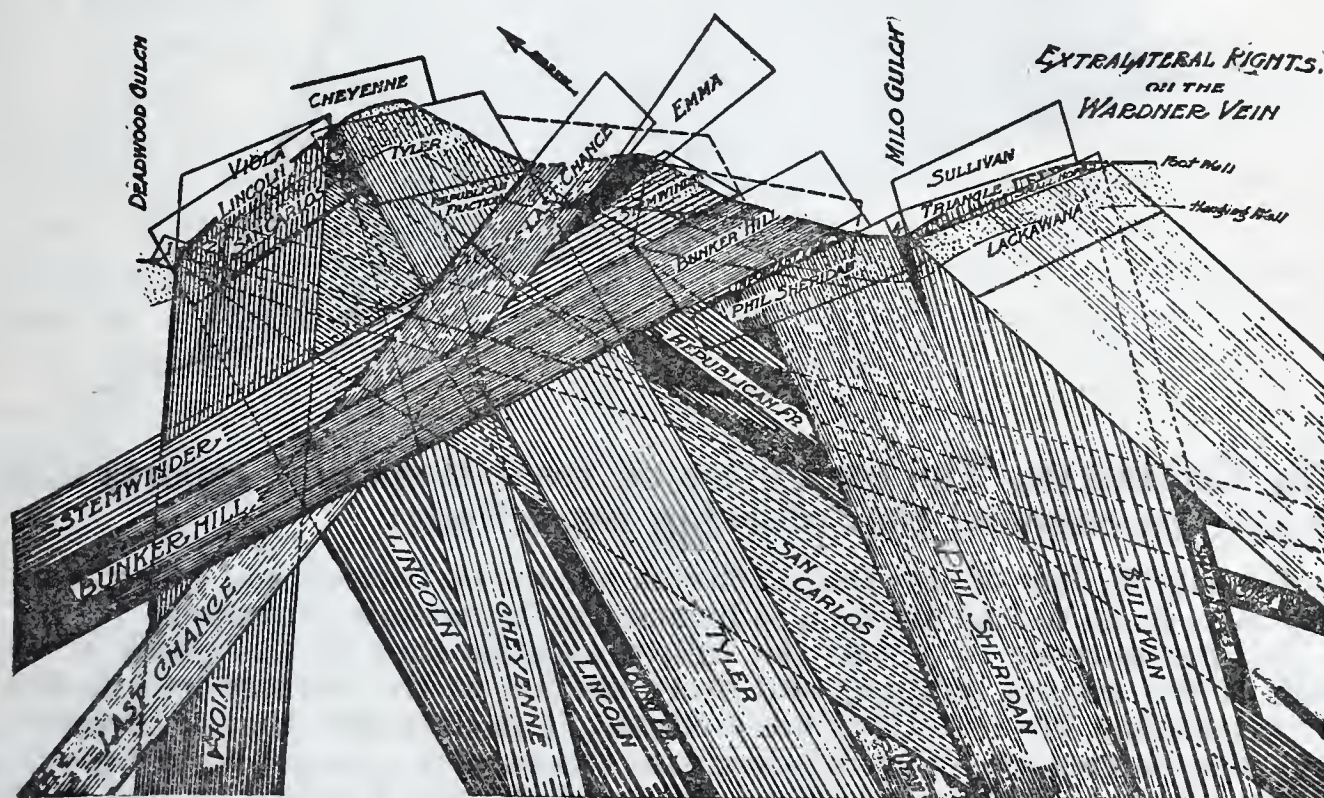
(Mr. Channing here gave a stereopticon exhibition of the territory referred to.)

The CHAIRMAN. Mr. Channing has given us a very interesting exhibition of the weakness of the law of the apex. He is one of our most distinguished mining engineers, as you know, although, until he spoke of his close association with Gifford Pinchot, I was not aware of the fact that he had obtained his progressiveness from that side of the house. He certainly has led the Government of the United States in disposing of the law of the apex by succeeding in the adoption of a mutual agreement to abandon the law.

Mr. WINCHELL. I should like to call attention to the working out of the apex law as illustrated by actual conditions in the Coeur d'Alene district, in Idaho. Sketch No. 1, prepared by Mr. Fred T. Greene, of Butte, illustrates the difficulty of operating in that camp under the rights as they have been established by decisions of the courts. You will note, for instance, the extra-lateral rights of the Tyler claim. This claim contains the outcrop or apex of a vein which, as established by the courts in accord with the testimony of geologists, consists for the most part of absolutely barren and unmineralized quartzite. It has a definite footwall, but its hanging-wall boundary is irregular and has teeth more prolonged than any cross-cut saw in proportion to its width. The vein is therefore at some places narrow and at other points more than 500 feet wide. This

vein belongs to the Tyler between the planes of its end lines down to the point where is encountered the side end line of the senior Last Chance claim. The apex of the vein crosses both side lines of the Last Chance claim, which therefore become end lines. Hence the Last Chance has rights prior to the Tyler, but gives way in its turn to the still older Bunker Hill location, which has a clean sweep through them all in the direction of its side end lines. You see how the Tyler working down from surface on the dip jumps over (or under) the Last Chance, the Emma, the Stemwinder, and the Bunker Hill and again resumes its extra-lateral rights on dip below that territory, having no right to follow through those claims except by keeping within the vein, but having right of way so long as no ore is extracted.

The Stemwinder, in turn, has a small triangle, gives way to the older Last Chance, and loses a little by sidewiping to the San Carlos and Viola.

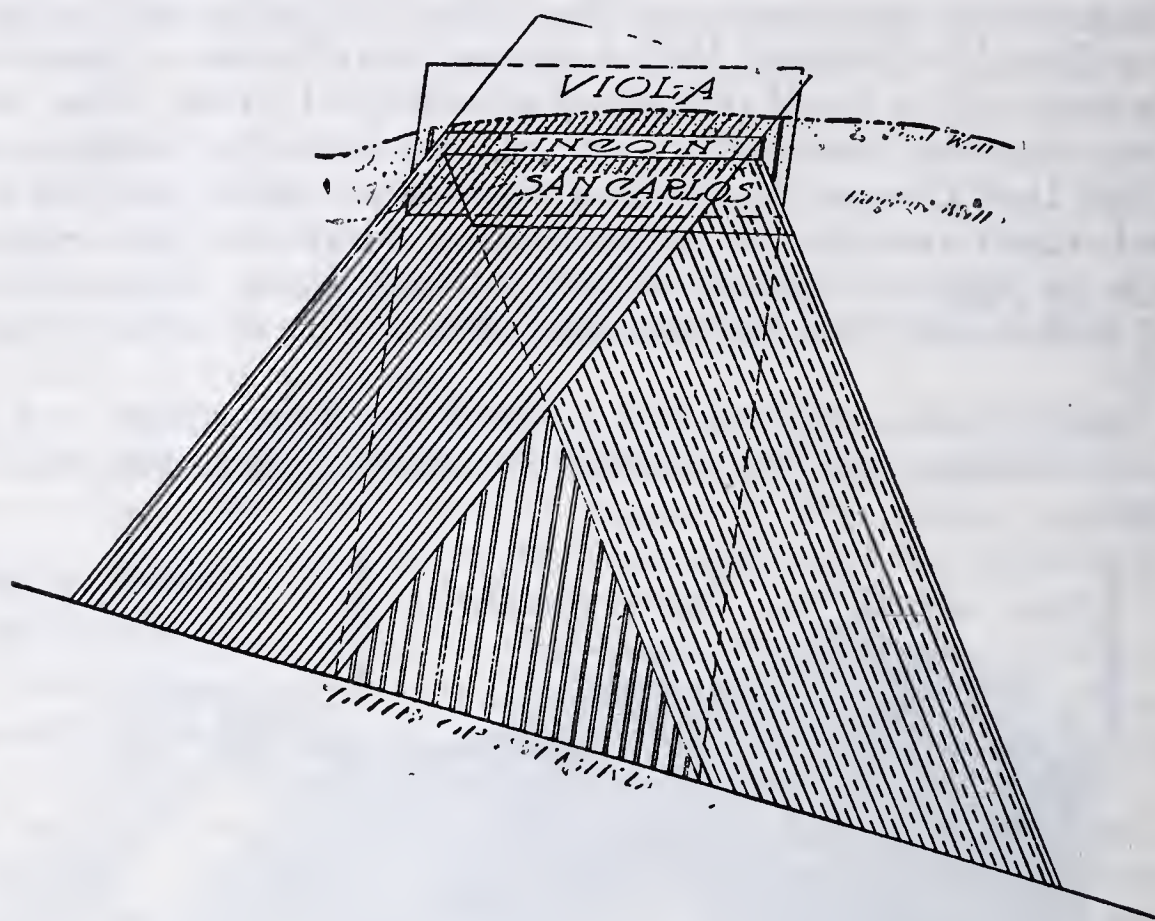


In sketch No. 2, also by Mr. Greene, we have another interesting situation. The San Carlos and Viola are so located that the side line between them bisects the apex or outcrop of the vein. There was a lawsuit over that situation, as over all of these claims; and the Supreme Court decided that in such a case the senior location takes all of the vein beneath the surface. Of course the senior has no right upon the junior claims' surface; but 10 inches below the surface, or any distance at all, the senior owns all of the vein downward within the planes of its end lines. And the junior, whose end lines were located in a different direction, had extralateral rights after those of the senior have been exhausted.

A third claim, the Lincoln, was located for the purpose of acquiring rights on the dip, which did not belong to either the Viola or San Carlos; and if the sketch were continued to greater depth we should see how two more segments exist—one east and the other west of the Republican claim—not covered by any one of these three claims.

Other complications exist, as shown by the large colored map on the wall, an examination of which will show the difficulties of prac-

tical mining in a district where the claims overlap each other, with end lines running to all points of the compass, and where the veins have comparatively flat dips.



The CHAIRMAN. The committee on resolutions now reports that it wishes to recommend the following resolutions:

1. The mining law of the United States should be revised, not piecemeal, but thoroughly, so as to coordinate and harmonize its various provisions.

2. For the purpose of giving the fullest consideration to the needs of every branch of the mining industry and every section of the country as affected by the mineral-land laws of the United States, it is desirable that a Government commission be created by act of Congress, whose duty it shall be to investigate by every proper means the questions and interests here referred to, and to make recommendations as to a basis for the proposed mining-law revision.

3. That, in order to represent the classes of men whose interests will be affected, the proposed commission should consist of five members: One representing the legal profession, one representing the Department of the Interior, and three men actively interested and experienced in mining and the acquisition and handling of mineral lands.

4. That this commission shall be selected and appointed by the President of the United States.

5. That this conference believes that the services of such a commission are deserving of compensation, as well as reimbursement for all necessary expenses, but is more concerned with the actual establishment of the commission and its character than with the question of emolument, and will gladly see the work done through an honorary commission if Congress deems it advisable.

6. That this conference expresses itself in favor of the creation of a permanent committee on mining-law revision, such committee to consist of five members from the Mining and Metallurgical Society of America, five from the American Institute of Mining Engineers, and five from the American Mining Congress, and be appointed by these organizations. Such committee to have the power to select its own chairman and secretary, and to add to its membership not to exceed 10 additional mining men or others interested in the subject for which the committee is created. The work of this committee shall be to further the interests of the mining industry through congressional action in accordance with the resolutions adopted at this conference; and its joint report shall be presented to each of the societies formally represented in its composition

The CHAIRMAN. If it is agreeable to the delegates, we will consider the resolutions in order, and, if we have unanimous consent, we will couple No. 1 with No. 2. (After a pause.) There being no objection, they will be so considered.

Mr. WINCHELL. I move the adoption of Nos. 1 and 2 on behalf of the committee on resolutions. (The motion was duly seconded.)

Mr. TOLMAN. Does the second resolution contemplate the omission of coal and oil lands or their inclusion?

The CHAIRMAN. I do not think that either alternative is contemplated. The resolution is quite broad: "It is desirable that a commission be created." The resolution does not qualify the subject at all.

Mr. INGALLS. I think you do not quite get Mr. Tolman's idea. If I gather correctly he inquires whether this resolution is intended to cover all classes of mineral deposits, including coal, oil, gas, and salines, or whether the committee intends to introduce some subsequent resolution on that subject.

Mr. WINCHELL. The committee has no resolution to present upon that subject. It had been the desire of the mining profession, as expressed in correspondence during the past several years, as well as in meetings and by resolutions, to have the whole question investigated. It appears that at the last session of Congress a bill was introduced in the Senate limiting the scope of the commission's labors to the metalliferous mines. This limitation was stricken out by the Senate and a bill was passed without that limitation. A bill was then introduced in the House, without such a limitation, but upon the recommendation of the Secretary of the Interior the limitation was inserted and the bill was recommended for passage, restricting the commission to investigation of the metal-mining laws.

It is not certain that Congress will pass the recent bill and it is not certain just what Congress will do as to permitting this commission to cover the whole field of minerals and oils. The committee, therefore, to whom this question was referred did not feel like making any recommendations, but simply suggested a commission to consider the whole subject; then, if its activities were limited by the passage of a leasing bill or by the specific wording of an act of Congress, the committee would have to accept such action as final.

(After some slight amendments in the wording of the resolution the motion was carried.)

The CHAIRMAN. The question now before the meeting is on resolution No. 3. The chairman of the committee on resolutions will please read it.

Mr. WINCHELL (after reading resolution No. 3). We sought, by this provision, to make it possible for the great prospecting class to be represented, those who are "interested and experienced in mining and the acquisition and handling of mineral lands."

Mr. MACBETH. Coming from a State in which the rights of the citizens have practically been taken over by the Federal Government, I desire to protest, on behalf of the people of Idaho, against permitting any Government officials to have anything to do with the revision of our mining laws. As the matter stands to-day, we are practically wards of the Government. We are denied the rights of citizenship which you men, who live in other sections of the country, enjoy. From day to day we are encroached upon. We do not wish, in the revision of our mining laws, to allow anyone connected with

any department of the Government to have anything to do with the question. I move to strike out that portion of the resolution relating to a representative of the Department of the Interior.

Mr. CHANNING. I wonder if the gentleman from Idaho realizes that conditions in the United States are changing. Instead of being a country where individualism is rampant, as was the idea 50 or 100 years ago, we are slowly becoming a more civilized country, much more interdependent, and with a tendency toward—I will not say socialism, but perhaps collectivism—where we have to consider the duties that we owe to our fellowman.

Now, although I have benefited professionally, personally, and financially by our very liberal mining laws, I am not prepared to say that in the future the United States should not conserve its resources a little more than it has done. It does seem to me that it is possible that the prospector, or the mine promotor or investor, may be getting a little too much when he takes 20 acres of land, covering a large mineral deposit, and pays the Government only \$5 an acre for it.

The gentleman must consider that conditions are changing, and perhaps the people of the United States will not tolerate the old conditions in the future. I believe that if anyone can understand that, or see the trend of modern thought, it will be a member of the Department of the Interior; I therefore think that it is eminently proper for a member of the Department of the Interior to be a member of this commission.

Mr. MACBETH. Possibly Mr. Channing and you gentlemen do not understand that 62 per cent of the area of Idaho has been taken from us. We have nothing left in that State but a narrow fringe along the shores of our rivers; that is all.

By the time I return to my home, I shall have traveled 6,000 miles to present our view to you, and to tell you precisely how we feel about this. We know that you are with us, but for reasons, possibly similar to those expressed by Mr. Channing, you do not like to declare yourselves. But I wish to inform you that a movement has been started in Idaho; attorneys are now engaged in preparing papers to contest the right of the Federal Government to every foot of land it holds. We propose to take the case right through to the Supreme Court of the United States, and to ascertain whether the Federal Government can rightfully enter Idaho and assert ownership of the tributaries of our navigable streams. We are bound hand and foot. For that reason, I came here to enter our protest before this conference. And we do question, in view of the existing conditions, the propriety of allowing an official of the Federal Government to handle any matter connected with the revision of our mining laws. We have suffered too much.

Mr. KIRBY. I am very sorry that a question of Government reservations in the West should have created so much feeling. I understand the conditions because I have been right there. I am very sorry that this question should have come up in connection with these resolutions, because I confess I can not see that it has any practical connection with the matter in hand. I sympathize very deeply with our friends from Idaho. I know just how they feel, but it seems to me that their grievance has nothing to do with this question. I am sure they would not, merely as a matter of feeling, wish to exclude

somebody because he happened to have the brand of the Government official upon him.

At all hearings of this proposed commission some Government representatives will be present, and, as a matter of fact, they will be representatives from the Interior Department, because this is the business of that department. We should not forget that we are not the Government. We are trying to lay out a practical program, one which is most likely to be enacted. As a matter of fact, no Federal mining law revision, no revision of any kind will be enacted without the approval of the Interior Department. It is the Government that is going to permit this revision. We are not going to revise the law; Congress is going to do it; and whether we like it or not it is the Government above us which controls the situation. So then, when this committee inserted that provision to which objection has been raised, it suggested only what was sure to occur, a Government official will inevitably be placed on that commission; also, whether we like it or not, he will come from the Interior Department. We have simply recognized a part of the necessary machinery of the Government, and it seems to me that the gentleman's objection has nothing to do with this question. I am sorry that this animus has been injected, because it brings in an entirely irrelevant issue. [Applause.]

Mr. Ross, of Washington. I feel compelled to make a few remarks by Mr. Macbeth's calling upon me to follow. I am very glad Mr. Kirby spoke as he did, because he gives my views exactly on this subject. I know it is very difficult for eastern men, who do not visit us in the West, to understand the extreme bitterness that exists out there on the question raised by Mr. Macbeth. It is very bitter, indeed. But that is not germane to the subject under discussion to-day. If it were a question of conservatism, I, as representative of a section of the Northwest, would probably have to stand with Mr. Macbeth; but as to these resolutions and the constitution of the proposed commission, I must say that my feelings have been expressed by Mr. Kirby, and I hope Mr. Macbeth will understand it that way.

Mr. TELLER, of South Dakota. I take pleasure in saying to Mr. Macbeth that I am very glad to find myself, to a certain extent, in accord with him in the sentiments that he expressed as to our feeling in the West toward a great many of the departmental rules and regulations. I think I feel just about like every mining man in the West who has had the experience of an amateur expert coming out and telling him whether he has a right to establish a mining claim or not; whether he has done enough work on it; whether he has found a mine, or whether he has not found a mine. I feel sympathy for the suggestion made by Mr. Macbeth, but I think the last two speakers have voiced the proper view, that this is not a fitting time or occasion for threshing out that proposition.

I have this suggestion to make, which I trust will appeal to Mr. Macbeth. This matter is bound to come before the Department of the Interior eventually. The President will not submit it to Congress without the recommendation of the department. Therefore it seems to me a good plan to have this one governmental representative on the commission. The other four members should naturally be western men familiar with mining conditions. If the four

men understand their business and yet are unable to convince the fifth, it will be because they have a very poor case.

(The amendment offered by Mr. Macbeth was put by the Chair and was not carried. Resolution No. 3, in original form, was thereupon put to vote and was carried. Resolutions Nos. 4, 5, and 6, duly seconded, were separately put to vote and were all adopted without debate. The meeting then adjourned until 8.30 p. m.)

EVENING SESSION.

The meeting reconvened at 8.30 p. m., Mr. W. R. Ingalls presiding.

The CHAIRMAN. The secretary has been in receipt of numerous communications from persons prominent in the mining industry, with whom he has communicated previous to this meeting. Many of these communications are of peculiar interest. I will ask the secretary to read some of them.

Mr. Sharpless then read the following telegrams:

Regret exceedingly I can not be present to assist in the valuable service you are rendering to the mining interests of the country. I send you best wishes for success.

JOHN HAYES HAMMOND.

The necessity for a revision and simplification of existing mining laws is everywhere recognized. I trust that the conference of mining men to be held at Washington, December 16, may take steps that will result in success for a movement so commendable.

S. V. STEWART,
Governor of Montana.

I regret my inability to be present to-day. I am a firm believer in the work you are doing and trust that your labors will be crowned with success.

B. B. THAYER.

Since the present status of the mining laws of the United States seems to be a source of wide dissatisfaction, I feel that a wise revision during the present session of Congress would be desirable, for the purpose of making the provision relative to mining and mineral lands more fully serve present-day needs.

GEORGE W. P. HUNT,
Governor of Arizona.

I regret exceedingly that it has been impossible for me to arrange to attend myself or send a suitable representative to attend your conference called for the purpose of initiating a concerted movement toward the revision for betterment of existing mining laws. I am thoroughly in sympathy with this movement, as are my associates in the mining business, and I earnestly hope that your efforts may meet with success.

D. C. JACKLING.

Revision is needed. The radical effect of the United States mining law is that it is productive of uncertainty in titles. Uncertainty as to rights to veins or ore bodies is essentially similar to uncertainty of titles. The law of the apex is admirable in theory, but in practice it oftentimes is a delusion and a snare. It is true that much of the trouble and litigation has been due to the shortsightedness or excessive optimism of promoters or directors, in failing to protect themselves by the acquisition of sufficient surface ground, which they would have had to acquire under the common law, and in trusting too implicitly to the law of the apex. Many of these troubles are inevitable and can only be prevented for the future by a change in the law. Uncertainty likewise exists in the tenure of unpatented locations because of the absence of admin-

istrative provisions by which location rights can be made definite from the start and be protected against conflicting claims. Some such provision should be made, conditioned, of course, on the performance of annual labor, but it should not entail any burdensome expense. Care must be taken that the individual prospector and the grubstake man be not shut out. The mining customs and the statutes had in view the keeping open of the field of opportunity to the greatest number. The same spirit should obtain in the revision. Your public spirited labors are deserving of success.

WM. SCALLON.

Regret my inability to be with you and help forward the good work of revising the mining laws. Our people on the Pacific Coast are keenly interested.

T. A. RICKARD.

I regret very much that I shall be unable to attend the meeting of the various mining societies and organizations in Washington on December 16. I wish, however, to express my deep interest and to state my conviction that the mining laws of the United States should be thoroughly investigated and revised, especially the apex law; and I believe the subject would be most intelligently handled by a Government commission consisting of men familiar with the mining profession.

J. E. SPURR,

Vice President of the Tonopah Mining Co. of Nevada.

I trust your organization will be able to influence Congress to revise the mining laws of the country, more especially with reference to apex laws, which have operated very unjustly and disastrously in this district. Last winter a claim that had never produced a pound of pay ore apexed a number of producing properties a half mile and more distant, and put a lasting blight upon the Goldfield district, which has produced ninety millions and was just beginning to experience much greater mining activity. After the claim in question exacted tribute of nearly three-quarters of a million dollars it closed down, the claim itself being worthless for ore. Such iniquities have killed many a good mining district.

CHARLES S. SPRAGUE,

President Jumbo Extension Mining Co.

I believe it is high time that the mining laws of the United States should be thoroughly examined with a view to such amendments as a long experience in the mining sections of the country render expedient and necessary. The appointment of a competent commission to prepare needed amendments to the mining law code would appear to be the most feasible and practical method of reaching the desired results.

LEE MANTLE.

I heartily approve your action in petitioning Congress to revise the mining laws of the country and I earnestly hope that the much needed remedial legislation will result.

R. CHESTER TURNER,

Vice President and Mgr. Brunswick Consolidated Gold Mining Co.

Thorough revision of our mining laws urgently needed. In my opinion it can best be done by commission of engineers and mining men for such are better qualified to determine character and practicability of changes proposed. Legal phases of subject could be afterward worked out by counsel employed for purpose. Regret I can not attend meeting.

F. L. GARRISON.

The West End Consolidated Mining Co. is strongly in favor of the appointment of an investigating committee to draft a new mineral land law as expressed in resolutions of the Mining and Metallurgical Society.

J. W. CHANDLER.

The miners of Idaho hope that you may be successful in getting the United States Congress to act favorably upon your requests respecting a revision of the mining laws.

IRVING E. ROCKWELL.

Ten chambers of commerce have written letters approving the plans of the convention and have appointed delegates to attend.

About 300 letters were received by the secretary, and more by the chairman of the committee on mining law, from prospectors, operators, and mining companies, wishing the society success in its undertaking, and approving of its plans. Fifteen letters were received favoring the present apex law, but objecting to other features in the existing statutes. Only three letters have been received advising that no alterations be made.

The CHAIRMAN. The unanimity with which persons engaged in the mining industry express the opinion that our mining laws should be revised is certainly very important. Hundreds express themselves to that effect; 15 only are in dissent. In planning for this meeting we conceived that it would be interesting, instructive, and illuminating to present reasons verbally and graphically why, in several important respects, we are sure that the mining laws ought to be revised. In planning for this presentation we naturally turned to the gentleman, than whom no one in this land has made a deeper study of the subject in all of its phases, than whom there is no one more expert upon it. I have great pleasure in introducing to you, Mr. Horace V. Winchell.

HORACE V. WINCHELL. Although the era in which we are living is often called the age of steel, it might be more appropriately styled the age of all metals. Progressing step by step from the stone age and the bronze age to the present time, civilization has advanced to a stage in which nearly all of the metals are useful and necessary. Its organization is so complex and the art of metallurgy so advanced that special uses in increasing and practically unlimited number are found for the various products of the earth. Always dependent upon the two fundamental industries, agriculture and mining, mankind to-day is more vitally concerned than ever with the production and use of food and of the minerals used in the arts. A nation's prosperity and success depend upon the ability to furnish from its own resources first, whatever food is needed to sustain life, and second, the materials required in manufacturing articles used in commerce and the arts.

Since the power and relative standing of nations wax and wane with their control of necessary minerals, it has been commonly observed by historians that many of the wars of history have been occasioned by a desire on the part of one country or people to possess mines situated in the territory of another. Thus it has been pointed out by Hoover (Agricola) that Jason and the Argonauts in their search for the golden fleece were nothing but placer miners, the gold that they sought being in the sands of eastern rivers; the mines of Laurium often furnished the sinews of war for the Greeks; the contest for supremacy between the Romans and the Carthaginians was founded in large measure upon the desire of the Romans to acquire the mining interests of the people of Carthage. After the Romans gained possession of the mines of Rio Tinto they made war in Gaul to capture slaves for working the mines. In more recent times, we recall the conquest by the Spaniards of Peru and Mexico in the search for golden treasures, the struggle between the Swedes and other people of northern Europe over the possession of the great Fahlun copper mine, which was called by Gustavus Adolphus the "Treasury house of Sweden"; the conquest by the Germans of the

iron ore and coal fields of Lorraine; the struggle in the Boer War over the control of the Transvaal gold mines; the conquest by the French of Tunis and Algeria, with their rich deposits of iron ore and phosphates; and the still more recent invasion and capture of the principal mining and smelting districts of Belgium. Indeed, from the very earliest days, dominion over minerals has been a prime desideratum of man. Our stone-age ancestor quarried the rock from which to shape his weapon; tribal communities located their habitations near the deposits suitable for such purpose; and many an unrecorded contest was fought to a sanguinary conclusion between those in possession and those who came from afar to renew their stock of arrow points, red pipestones for pipes, and native copper for domestic utensils or spear tips. Miners operated before Tubal Cain had use for a forge and before Solomon and Croesus could accumulate their treasures. The geographical distribution of the human race has from the very earliest times depended on that of easily won mineral deposits, and relative stability and tribal or national supremacy has been conditioned by the ability to retain and use them most extensively.

The standing of the United States among nations is due as much to its large production and consumption of metals and ores as to its climate, its soil, or the character of its population. No subject therefore can be of greater importance and interest to its people and its law-making assemblies than the conservation and proper encouragement of the mining industry. The magnitude and comparative importance of this industry are appreciated by many, but the mining man of wide travel and experience has perhaps better opportunity to observe examples of the backwardness and relatively low standing of those countries which are of inferior rank as mineral producers. It is easy to point to large and perhaps densely populated lands in which the state of civilization is retarded, whose industries are languishing, whose national existence depends chiefly upon manufacturing products, the raw materials for which are derived outside of their borders, or whose industry, because of the lack of mineral wealth, is chiefly agricultural. Such countries stand upon one leg only. The United States, with its unparalleled mineral resources, its geographical position in a temperate zone, and its broad fields adapted to agriculture, stands firmly upon two legs and both should be equally cared for in order to promote the fullest and most rounded development. If either leg be injured or neglected the national existence is crippled.

In our country the industry of agriculture is encouraged and protected by statutory enactment, and by the intelligent and solicitous attention of the people, but the mining industry is looked upon as something which does not require attention, something which will take care of itself and is supposed to be largely in the hands of a small group of plutocrats who are rather to be curbed than encouraged. That this is not a true estimate, and that the industry of mining and metallurgy, although a vital part of our national economy, is on the decline and deserving of the most careful attention from our National and State legislatures, is clearly indicated by the following statements from the report submitted on May 20, 1914, to

the Sixty-third Congress by the House Committee on Mines and Mining:

That the mining industries of the country, and especially the metal-making industries in our public-land States, are not keeping pace with the normal development of the country is clearly shown by the following data:

In the population of the public-land States west of the Mississippi and Missouri Rivers there was an increase from 14,800,000 in 1900 to 19,600,000 in 1910, or 32 per cent.

The agricultural crops of the public-land States had a valuation in 1900 of \$921,000,000, and a valuation in 1910 of \$1,950,000,000, an increase of 112 per cent.

During similar periods the average annual valuation of all the mineral products in the public-land States increased from \$287,000,000 during the period of 1901-1905 to an average annual valuation of \$358,000,000 during the period from 1906-1910, an increase of less than 25 per cent; whereas the production of the precious metals in the public-land States decreased from an annual average valuation of \$136,000,000 during the earlier period (1901-1905) to an average annual valuation of \$127,000,000 during the latter period (1906-1910), a decrease of nearly 7 per cent.

No better illustration could be given of the contrast in the treatment of these two great national industries than the fact that in spite of this lagging behind in the mining industry during this 10-year period the National Government expended for the reclamation of agricultural lands in these public-land States not only all of the money received from the sale of public lands for agricultural purposes, but also nearly \$7,000,000 received from the sale of mineral lands in these States.

The reduction in the number of men employed in the different metal-mining industries in the public-land States tells even more clearly than do the figures of production the falling behind of the mining industry. The figures from one of these States may be taken as an example. The average number of men employed in the metal mining and metallurgical industries in the State of Colorado for the 4-year period, 1900-1903, was 36,189; during the period from 1904-1907 this annual number of men employed was reduced to 34,364; and during the 4-year period from 1908-1911 the number of employees was further reduced to 22,560.

Congress is now appropriating, as an aid to agriculture, about \$28,000,000 per annum. These funds are distributed through the Department of Agriculture by the aid of nearly 14,000 employees. The relative importance of agriculture and mining to the Nation, and the amounts appropriated for them, are shown in the following tables taken from the report already mentioned:

WHAT THESE TWO BASIC INDUSTRIES DO FOR THE NATION.

Item.	Agriculture, including forestry.	Mining and mineral industries. ¹
Number of employees.....	13,000,000	2,300,000
Yearly value of products.....	\$10,500,000,000	\$4,600,000,000
What each worker in these industries contributes to the national wealth yearly.....	\$800	² \$1,800
What each industry contributes to the freight tonnage of the country yearly, per cent.....	22	60

¹ The scope here includes mining, metallurgical and other mineral industries, as does the work of the Bureau of Mines.

² Exclusive of the value of the minerals and ores as they occur in the ground.

WHAT THE NATIONAL GOVERNMENT IS DOING FOR EACH OF THESE INDUSTRIES.

	Yearly appropriations.	
	Agriculture.	Mining.
For education:		
For direct appropriation.....	\$2,500,000	(¹)
For land grants.....	1,030,000	(¹)
From Smith-Lever Act for demonstrating educational work.....	² 480,000	(¹)
For 52 experimental stations, one in each State and Territory.....	2,550,000	(¹)
For general researches and other work to aid agriculture and mining.....	22,410,000	³ \$1,967,000
	27,970,000	³ 1,967,000
Per capita contribution from the people of the United States for the advancement of these industries.....	0.28	0.02

Of this contribution, the per capita expenditure for safeguarding the lives of 2,300,000 employees in the mining industry is about ½ cent per annum.

¹ Nothing.
² \$480,000 for 1915; increasing to \$4,580,000 for 1925 and each year thereafter.
³ Of this amount, less than \$500,000 is expended under the Bureau of Mines in behalf of improvement of safety and health conditions among the 2,300,000 employees in the mining industry; of the remainder, about \$1,300,000 is expended for geology, topography, water powers, and other problems having to do with the commercial side of mining and other industries, under the Geological Survey; and \$135,000 is expended under the Bureau of Mines for the commercial testing of the coal and oil used by the Government.

Nothing can show the relative national neglect of the mining industry more clearly than does the above tabulated statement; and this neglect is all the more difficult to understand in view of the hazards of that industry and the other conditions that should appeal to the humanitarian as well as to the commercial instincts of the American people. But another fact that tells the story with equal emphasis is that during the past 10 years, in addition to the large sums paid out of the National Treasury for the benefit of agriculture, as indicated above, and the payment toward the reclamation of agricultural lands in the Western States of all funds arising from the sale of public lands in those States, even the proceeds of the sale of the Nation's mineral resources in like manner have gone, not to aid mining, but to the reclamation of additional lands.

From these statements it appears that the mining industry is justly entitled to more liberal and direct support from the Federal Government. Aside from this fact, however, it is desired at the present time to advance some of the reasons why mining should be assisted in the near future by a change in the laws which affect the location, discovery, and possession of mining property. The law at present in force was enacted in 1872, and although it has been amended in a few particulars from time to time, the system of mineral-land law which prevails to-day is substantially that which was deemed best for conditions existing nearly half a century ago. In no other department of Federal regulation and control has there been such backwardness in changing the statutes to conform with the great changes that have arisen in our national industries within the past 50 years.

The method of acquiring possession of mineral lands and deposits, and the character of the title conveyed vary in different countries. It has been recognized for centuries that the discoverer of a valuable deposit of ore is entitled to recognition and pecuniary reward. The importance of mining has induced governments and monarchs to bestow special favors upon those of their people who have increased

the metallic production of their lands. In this way a separate form of title has arisen, based upon custom and expressed in statutes, different in character from those pertaining to real estate. Some countries have adopted the principle of government ownership of minerals, giving to the mine operator only a lease or some form of temporary possession conditioned upon constant operation of the mines and revocable for failure to observe the required conditions. Most countries exact some sort of title, or royalty, or bullion tax upon the output. The right is frequently given to the prospector to enter upon the domain of others, under certain requirements and limitations, and to prospect for and mine the ores contained beneath the surface of privately owned lands. In the United States no such right is recognized.

The laws we are here to discuss concern primarily only the deposits of minerals upon lands owned by the Federal Government, although it is none too soon to think about the public interest in the minerals on privately owned land. It is not sought to make such changes as will in any way affect titles already in existence. The mining men of this country find themselves seriously hampered in the operation of their properties by certain provisions of the present law. They are aware of the fact that one-third of all the public domain which formerly belonged to the Federal Government still remains in its possession, and they desire, for the benefit of the future miner and for the interests of such mines as are certain to be discovered upon this remaining one-third, to induce Congress so to modify the Federal mining laws as to encourage development and protect the mine owners.

This is a subject which is of direct and vital interest primarily to the people of the West, but secondarily to the entire country, inasmuch as every industry is more or less dependent upon the successful and continued operation of our mines. It does not appeal with direct force to the people of the East because there are few Government lands remaining in the Eastern States, and because the mineral-land laws apply only to certain parts of the mining States of the West. It would probably surprise many to know that there are constantly from 6 to 10 or more important and expensive apex suits pending in our courts. It might be still more surprising if the statement were made that the direct cost, to say nothing of the loss of time, labor, and profits, of a single one of these lawsuits is frequently more than one-quarter of a million dollars. There is a factor of hazard, loss, and expense, of uncertain importance, hanging over every mine investment wherever the apex law is in force. No attorney or mining engineer can safely recommend the purchase of a quartz mine in the West, no matter how carefully the chain of title may be scrutinized and approved, without taking it into consideration. Indeed, the whole business of mining is hampered and forced to carry the burden of this dangerous provision in our present law.

Other defects of the statute now in force have been pointed out in communications to the engineering societies and to Congress. Presidential messages have frequently urged changes in our statutes; Secretaries of the Interior have called attention to the importance of the matter in their annual reports; committees of the Mining and Metallurgical Society of America, of the American Institute of Mining

Engineers, of the American Mining Congress, and of other organizations of mining men have again and again demanded from Congress some modification of the present unsatisfactory laws. It is for the purpose of presenting a united front at this time, and impressing upon our lawmakers the fact that there is a widespread need for relief, that the present conference has been called.

The revision which we ask should be far-reaching in its results. It can be readily understood that any industry from which is derived, directly or indirectly, 60 per cent of the freight traffic of all of our railroads is one which concerns every laborer, merchant, farmer, and professional man. If the prosperity of our railroads is a gauge by which to measure that of the country in general, no profound understanding of political economy is needed to enlist our interest in the country's mining industry. Indeed, without elaboration we may say that mines are needed:

1. For the promotion and maintenance of national trade at home and abroad.

2. As indispensable elements in preparation for national defense, both now and far into the future.

3. For the steady employment of laborers which, as already shown, are more than twice as productive as the average farm workman. And in this connection we must not overlook the fact that the vast number of men employed on railroads and in manufacturing plants of nearly every description are as dependent upon the continued operation of mines and smelters as the miner and smelter man himself.

Favorable mining laws and conditions are also essential for the expansion and development of our Territories and insular dependencies. Indeed, some of them, such as Alaska and the Philippines, have been stunted and almost strangled by bad mining and land laws or by improper administration and enforcement of those which happened to be good.

Let us now consider briefly just why the mining men complain of the present laws.

In the first place, it is because the country has outgrown them. Conditions have changed; mines are no longer easily discovered. What was at one time the occupation of a handful of men has become the pursuit of many. An industry which yielded a gross value of perhaps \$300,000,000 in 1872 now adds nearly \$5,000,000,000 annually to the Nation's wealth. Indeed, during the first century of its existence, the production¹ of the United States, as compared with that of a single decade now, was, roughly, as follows:

	1775-1875	1905-1914
Gold.....	\$1,332,700,000	\$891,000,000
Silver.....	\$261,450,000	\$344,790,000
Quicksilver.....flasks..	840,000	211,000
Copper.....tons..	200,000	4,770,000
Lead.....do..	855,000	3,320,000
Pig iron.....do..	40,000,000	250,000,000
Anthracite.....do..	351,521,000	726,000,000
Petroleum.....barrels..	76,594,600	1,175,700,000

¹ Abram S. Hewitt: A century of mining in the United States. Trans., A. I. M. E., vol. v, p. 171.

In fact, in a single year we now produce more copper and petroleum, to say nothing of zinc, aluminum, cement, bituminous coal, coke, sulphur, and phosphates, than in the first hundred years of our national history; and of many other products we are now producing at a vastly accelerated pace. It is only within the past 20 years that we note a declining tendency. But the symptoms are serious enough to demand attention.

Then, too, the character of the mines now workable by modern processes of mining and reduction is not such as that contemplated by the framers of the law of 1872.

The most important gold-mining developments at the present moment are in low-grade disseminations through schists and eruptive rocks, such as were never dreamed of by those who framed the law of 1872. Indeed, the Homestake, the Alaska Treadwell, and neighboring properties in Alaska, the majority of the mines at Leadville, the mines of the Kendall district, Montana, and of many other gold and silver districts in the United States, to say nothing of those in other countries, are so different from the deposits for which the law was created that only by a wide stretch of both the law and the imagination have they been brought within its provisions.

The same is true of copper mines. How many of those developed within the last 15 years conform to the idea of the law of 1872? Not Ely, nor Bingham (although in both places there are also found true veins), nor Ray, nor Chino, nor Miami. Here, and in other districts, the owners of the mines have found it necessary, by mutual agreements, to set aside the apex provisions of the law. But my point is here simply that all these great mines present features which place them entirely outside the category of deposits contemplated by Congress at the time the present law was enacted. And if the northern State of the Mississippi Basin had not fortunately been excepted from the operation of this law, then we might have had the copper-bearing amygdaloids and conglomerates of Michigan, the iron-ore beds of Michigan, Wisconsin, and Minnesota, and the galena-bearing limestone strata of Missouri and Kansas also locatable as mining claims.

The present law is further objected to because it discourages prospecting. This is, perhaps, the most serious charge that can be brought against it. Indeed, if proved, it is alone sufficient to justify the demand for revision. Traversing again ground already covered in this connection elsewhere, let us for a moment consider the changes that have come about in the West during the past 40 years. In the sixties and seventies there were but imperfect maps; no geological surveys, no published records or data competent as guides for the prospector. The great West was boundless and inexhaustible, mysterious and alluring. It contained mines of wealth untold, and anybody could find one by diligent search. So, with his pick, prospector's pan, and pack train, the pioneer searcher for fortune betook himself into the heart of the wilderness. And wherever some one, luckier, sharper of vision, or more industrious than his fellows, chanced upon an outcrop, there he made his location, and to that spot was promptly followed by scores of others. And they, turning over the soil, or working the golden gravels, or trenching the surface débris, also found outcropping ledges and staked out their locations; and a camp was established. And when so many gathered together

in one camp that rules for their conduct were needed, including public recognition of the individual's right to the fruits of his discovery, then a meeting was held, a mining district was organized, and rules were adopted; and these rules had the force of law. The mines were in their infancy, depth had not been attained, and the only definite feature of many a claim was the outcropping lode or "discovery." In that way, and for that reason, a discovery was made the *sine qua non* of a valid location; and this provision, universally adopted by the mining districts, was incorporated into the laws of 1866 and 1872. It worked well for a time. Mines, or at least veins, were easily discovered; and until a prospector had found one he seldom cared to stake a claim. But soon it was found that value attached to quartz locations in the vicinity of good mines, even without a discovered vein, and many locations were made on barren country rock. Moreover, the land-office officials were complaisant, and had no means of ascertaining the truth or falsity of the affidavits of discovery; hence, claims were often patented upon testimony to the expenditure of the required amount in development work, although no vein had ever been discovered.

As the West became settled and threaded with railroads two gradual changes accomplished results of startling and vital importance to the miner. In the first place, it became exceedingly difficult to find any more outcropping lodes. All the typical quartz veins carrying gold, silver, etc., were located—at least all whose "iron hats" compelled attention. No longer could a prospector and his "pardner," with a burro and a two-month grubstake, find half a dozen promising ledges, and sell their location for a year's wages. In the second place, Uncle Sam woke up and said the law required a discovery of valuable mineral in place, and a mining claim was not valid until mineral had been found; and began sending out inspectors and special agents, and Forestry Bureau employees and others to ascertain the character of these discoveries. Then for a time, a good long time too, the prospector was looked upon as an interloper, a rogue, a land thief, who was presumed to be guilty of perjury until he proved his good faith. Unable to stand against these two discouraging obstacles, the increasing difficulty in finding unlocated lodes, and the expense of defending contests brought against him by relays of Government agents, the prospector threw up his hands and practically disappeared; either went out of business or moved to some more salubrious clime where inspectors cease from troubling and the weary none contest.

This idea that a discovery is necessary before a claim can be staked is one of the most persistent of the traditions of antiquity. It harks back to the days of feudalism and appears in the earliest writings on mining. Thus, in the first printed version of the mining laws of a portion of Germany, published in 1519 and referred to as "the common mining law descended from antiquity," a discovery of ore is required before a claim can be surveyed, and the measurements are made from whatever shaft or pit is claimed as the "discovery." "And if one can not agree as to his mining right, how far it goes or where it turns, it shall be thus decided":

One shall take a basket and in it lay a pick, a Kratz (pointed hoe), a hammer, and 12 irons, and shall hang it on a rolling tree (windlass) and let it run of itself; and as far as one may hear it, thus far is my lord's jurisdiction.

This is quite as definite as some of the rulings of the courts on mining rights to-day.

The same idea of discovery before location is found in the laws of many countries which permit prospecting upon the domain of the sovereign or upon private lands. Thus Lindley, author of a celebrated treatise on mining law, remarks:¹

Discovery in all ages and all countries has been regarded as conferring rights or claims to reward. Gamboa, who represented the general thought of his age on this subject, was of the opinion that the discoverer of mines was even more worthy of reward than the inventor of a useful art. Hence in the mining laws of all civilized countries the great consideration for granting mines to individuals is discovery.

The point which I wish to make is that while it is eminently proper to stimulate the prospector and to reward him for finding mines, it is no longer reasonable to require of him that he shall have actually found ore in place before he sets his stakes to mark the ground on which he is willing to expend his money and labor in the effort to find it.

The discovery of mineral deposits is no longer an incident of a summer vacation. The prospector of the future must possess more expensive equipment, greater technical knowledge, and a larger exchequer, and his operations must perforce be conducted through shafts, tunnels, and drill holes, in some instances taking years of diligent and well-directed effort. The requirement of a discovery before location and antecedent to the granting of any exclusive possessory title is therefore not only irksome and deterrent of results in practice, but wrong in principle.

The laws of most countries recognize the fact that ore deposits are subterranean and in many cases only to be found by digging, and in thus reversing the natural order of things we are conspicuously alone.

From a rather intimate personal knowledge of conditions in the mining regions of the West I am prepared to assert that there is a serious decline in prospecting and in the discovery of new mines. It should be constantly kept in mind that mines are not like farms or water powers. They will not and can not "go on forever." They are like money on deposit in a bank without interest. When mines are worked to their fullest production and efficiency they are exhausted sooner than under the old systems of operation. And when once exhausted new mines must be found to take their places or else business declines.

We should also bear in mind the fact that if our commercial prosperity arises in large part from our ability to supply the world with the manufactured products of our mines, just so soon as those products are no longer available will our foreign trade and home manufactures fall into a state of inanition. As a country we occupy about 6 per cent of the continental land area of the globe; as a people we have about 6 per cent of the world's population; and as a nation we are producing about 36 per cent of the minerals of the world. Is this not food for reflection? Do we not see deserted and exhausted mining camps in every State of the West? Do we not know that new mines are not being found to replace those which are dead or

¹ Lindley on Mines, Third Edition, par. 335.

dying? If not, give ear to this clipping from the Boston News Bureau of December 9, 1915:

Canadian Mining and Exploration Co., which is liquidating, was organized in May, 1912, by the largest banking interests in New York and Canada to investigate and exploit mining and other proposed enterprises. Since organization it has investigated about 1,500 mining propositions without finding one good enough or large enough to warrant financial promotion.

Think of it! A company with millions of capital, with a corps of trained men, can not find one good mine in three and one-half years, although they searched and scoured the country from one end to the other. And look at all the other exploration and development companies. They have almost abandoned the United States and are now employing men and spending their money in Mexico, Central and South America, in Russia and Siberia, in India and Africa. And shall I tell you why? It all comes down to that clause of our law requiring discovery before location; it all results from the discouragement and disappearance of the plodding, patient, often visionary, often disappointed but occasionally successful prospector. Give him exclusive possessory title before discovery, furnish him with sympathy, encouragement, and even actual financial aid instead of suspicion, contempt, skepticism, and active antagonism and he will find new mines for the restoration of our declining mining industry.

The feature of our present law most strongly condemned by mining men is that known as the "apex law," by which the miner is given the right to follow veins on their course downward beneath the surface of the land owned by others. This has been already referred to, but deserves further consideration. Opposition to it is almost universal. The opinions of many representative men appear in the bulletin of the Mining and Metallurgical Society and in the Transactions of the American Institute of Mining Engineers, and copies may be had by those interested.

This hoary, antiquated, trouble-breeding license to trespass on a neighbor's territory, whose origin is lost in the mists of the Dark Ages, has been abandoned by many nations. The Germans tried it for hundreds of years and gave it up because it led to so much litigation; it passed over to England and had vogue for a time in some districts; there was a trace of it in old Spanish laws; Sweden adopted it; also British Columbia and the United States. But with the single exception of Rhodesia, we are the only people foolish enough to keep it in this day of enlightenment and progress. Even Rhodesia is trying to do away with it, and we may soon stand alone in our glorious obstinacy to reason and reform.

Mr. A. Montgomery, State mining engineer of Western Australia, in a letter to me says:

The lateral-rights principle obtaining in portions of the United States is a standing marvel to the rest of the world, and that it could be seriously proposed to perpetuate it outside of cases in which it has unfortunately been already granted seems incredible to most outside engineers with whom I have come in contact.

I should like to read also a letter from Hon. W. H. Dickson, of Salt Lake, one of the most celebrated and experienced mining attorneys of the country.

I have long been fully persuaded that the act of May 10, 1872, in so far as it relates to mining locations on veins, lodes, or ledges containing precious or

valuable metals, should be so amended as to confine the locator of all locations thereafter made within the surface boundaries of his claim extended downward vertically. The right conferred upon the locator by the present law to follow his vein in its downward course beyond a vertical plane passed through the side line of his location has, as we all know, proved to be the prolific mother of vexatious and most burdensome litigation, to the serious detriment of the mining industry. I am satisfied that I am well within the mark when I say that the expense of litigation which has hitherto arisen is in excess of \$200,000,000. We know that in very many of these cases the expenses of necessary so-called litigation work, plus the fees of lawyers and learned expert mining geologists, runs into the hundreds of thousands of dollars. The statute has now been in force nearly forty-four years and notwithstanding the great multitude of litigated cases that have arisen out of it, its true meaning or interpretation is still unsettled as to many questions.

For instance, there is now pending in the courts a case involving the question whether a vein or lode found in the form of a single anticlinal fold has any op or apex, within the meaning of the act; whether one who has made a valid location covering the crest or axis of such a vein or lode has the right to follow either limb or side of the vein in its downward course beyond vertical planes drawn through the side lines of his location. The question involved is an open one, never yet having been passed upon by any court.

Again, there is a case pending in which eminent counsel earnestly contend that if in a lode claim (running, we will say, in an easterly and westerly direction) there are found the tops or apices of two veins, one, the discovery vein dipping northerly, the other, the secondary vein, dipping southerly, the locator is not entitled to pursue the latter vein in its downward course beyond his side line. This, also, is still an open question.

Again, we will say that the only vein, the top or apex of which is found within the location on its course, enters and departs from the claim over the same side line. Has the locator the right to follow such vein in its downward course extralaterally between planes drawn through the points where it so enters and departs from the claim parallel to the located end lines thereof, or has he intralimital rights only upon the vein? This, also, is still an open question.

And yet again has one, who has made a valid location covering the top or apex of a vein found on the public domain, the right to follow the same in its downward course extralaterally beneath the surface of a previous agricultural or townsite patent? There is no authoritative decision on this question and there are now pending in the courts two cases in which it is directly involved.

The foregoing are some of the questions of law yet undetermined. Doubtless there are many others. But if every question as to the true interpretation of the act and its application to any and all conditions, to every state of facts which might be established, were finally settled it would not greatly curtail the volume of litigation arising out of it. The controverted question of fact as to the continuity of the vein in its onward and downward course would continue to prove an endless source of litigation involving the expenditure of large sums of money.

I suppose there never yet has been found a vein or lode which contained ore of commercial value throughout either its length or its depth. In the vast majority of cases, the area of the vein found to contain no ore of commercial value largely exceeds the area that may be profitably worked. The owner of the vein, in the development thereof, does not throw away his money in exploring the practically barren areas. By his enterprise and the expenditure of a large amount of money he has succeeded in developing a mine of great wealth; but in following his vein in its downward course, as soon as he reaches or passes beyond the side line of his claim beneath the surface of an adjoining location, possessed by his neighbor, he becomes involved in litigation and is at once enjoined from the further development of his property in that direction. To defend himself successfully against such suit, however unmeritorious it may be, he must now incur the expense, however great, of running all such drifts or levels, upraises or winzes as may be necessary to prove that the continuity of his vein on its onward and downward course is such as to entitle him to follow the same extralaterally. The necessary expense of such work (which usually does not add a dollar of value to his mine), coupled with the fees of experts and lawyers, may be so great, and often is, as to make it a matter of business prudence for the owner of such a vein to purchase the property of his neighbor at an exorbitant price or to compromise a suit which had no foundation in justice but was bottomed in blackmail.

On the other hand, the owner of a mining claim, by his energy and enterprise, has developed large and valuable ore bodies beneath the surface thereof, which excites the cupidity of the owner of an adjoining claim, who at once commences suit alleging that these ore bodies lie in or belong to a vein which has its top or apex in his claim, and so traverses the same as to give him the right to follow the same extralaterally to and including the ore bodies thus put in controversy. I know of one such case where the witnesses for the plaintiff, who was asserting extralateral rights which would include the ore bodies developed by defendant beneath the surface of his own claim, conceded that in passing from the alleged apex of the vein in plaintiff's claim you had to pass (for the greater part of the length of the claim) through more than 300 feet of absolutely barren country rock in order to reach the ore bodies in controversy. The case had to be twice tried and was carried not only to the supreme court of the State, but to the Supreme Court of the United States, the litigation covering a period of more than nine years. Defendant's ownership of the ore in controversy was finally established, but in the end it was practically a barren victory, for the expense of the litigation was fully equal to the net value of all the ore in dispute.

The statute opens the way to blackmailing litigation and has sometimes resulted in it. I know of many cases in which eminent experts have been employed by the respective parties to litigation of this character, witnesses whose integrity and ability were beyond question; and while there was rarely much conflict in the testimony in any of these cases respecting observable facts, yet I know of no case where these experts did not arrive at diametrically opposite conclusions respecting the true interpretation or deduction to be drawn from the facts. Thus we see how hazardous is the situation of the miner carrying on his operations under the existing law. It is a constant menace. The value of property the title to which is involved in such uncertainty is of necessity greatly depreciated. Moneyed men and would-be investors are thereby deterred from purchasing such properties and from investing money in the development thereof.

The discoverer of veins or lodes containing valuable metals, or he who invests his capital in the development thereof, should be encouraged by the law, as such encouragement leads to the development of the mineral resources of the Nation and promotes general prosperity. Hence, if the law should be so amended as to abolish the so-called extralateral right, the locator of a mining claim, in my judgment, should be permitted by his location to embrace a larger surface area than is permitted under the present act—I should say not less than 1,500 feet square; and if his location is based upon a vein actually discovered at its top or apex, he should be permitted, at his election, to embrace within his location 750 feet on either side of the top of the vein or his entire 1,500 feet in width on the one side or the other thereof (but, of course, covering such top or apex). He should be given also the ownership of all other veins or lodes, or parts or portions thereof, found within its surface boundaries extended downward vertically.

I think the present statute should be amended in another respect. A valid location under the present law can not be made until the would-be locator has discovered rock in place carrying gold, silver, etc.—that is to say, the top or the apex of a vein or lode. In many of the most important mining districts in this and other States it is impracticable honestly to comply with this provision of the law. For instance, in the Tintic mining district in Utah, which covers an area several miles square, and which has yielded, as I am informed, more than \$200,000,000, there are found only a few places where a vein outcropped or even reached on its upward course at all near to the surface—I think not more than five places in all—and in each of these the exposure was confined in a very limited area. In many of the mines which have there been developed and which have proved very profitable, the top of the vein was from 100 to 400 feet beneath the surface, all above that being barren limestone, practically barren of vegetation, apart from a scrubby growth of pine and cedar. Like conditions as to the absence of outcrop and depth beneath the surface of the tons of veins or lodes exist in the great mining district near Park City. This also is true of the Tonopah mining district and the Goldfield mining district in Nevada. From your extended experience you doubtless know of many other important districts where like conditions prevail.

Further arguments and opinions against this section of the law of 1872 could be adduced almost without limit. The fact that mining

men set it aside by mutual agreement wherever conditions make it possible to do so, and that hardly a voice is raised in its favor, seems enough to persuade Congress to repeal it and thus protect at least those mines which will be discovered in the future on the 620,000,000 acres still belonging to the Federal domain.

When listening to the arguments of learned attorneys and expert witnesses in apex cases I am frequently reminded of the Chinese mining regulations of 1907, which provide as follows:

Any graves on the mining area must be respected and protected, and no mining works must be carried on within a certain distance from them. The distance from any imperial tomb or tomb of any sage must be at least 300 li (more than 100 miles), that from the tomb of a mandarin must be 5 li (nearly 2 miles), while that from the tomb of any formerly noted statesman or official must be a li (1,894 feet), and from that of ordinary persons 500 feet, and this limit must not be encroached on either above or below ground.

Nor may any shaft be sunk deeper than 500 feet for fear of letting out all the devils. The devils of apex litigation are turned loose from many a shaft less than 500 feet in depth by our ingenious law.

Another important defect in our present law, to which the attention of Congress has frequently been invited, is a lack of any provision for appeals to the courts from the decision of land-office officials. It is contrary to the general spirit of our institutions, and an anomaly in constitutional government, to take away from any citizen property rights to which he considers himself justly entitled under the law, by the mere fiat of an appointed Government official, who is here to-day and gone to-morrow. To place in the hands of such officers the final dicta in matters involving property valued at hundreds of thousands of dollars and to provide no method of appeal to any duly constituted, permanent, nonpolitical, judicial tribunal is not only to subject the said officials to severe and unnecessary tests of moral courage and fidelity, but to require in them the qualifications of superior judges and experience in the weighing and interpretation of the law, which many of them can not be expected to possess. Serious injustice is often done without any remedy at law to the defeated applicant.

The celebrated Cunningham coal cases in Alaska are a concrete instance of maladministration of justice and the infliction of obloquy and financial loss upon perfectly reputable and law-abiding citizens by the decision of political appointees, who were forced by the stress of political expediency to render verdicts justified by neither the law nor the evidence, and from which there is no recourse. In the interests of justice, provision should be made for appeals in important cases, and, perhaps, in all cases, from rulings of the Commissioner of the General Land Office, or of the Secretary of the Interior, to some court of competent standing and jurisdiction, whose decisions could and would be accepted by the public and the interested parties with confidence in their just and correct interpretation of the statutes. The enactment of such legislation was specially recommended to Congress in a presidential message by William H. Taft, but it failed of passage largely through the misguided opposition of the chief apostle of conservation. It should be brought up again, and insistently, until placed upon our statutes.

There has been much difference of opinion as to whether petroleum and natural gas are minerals.¹ The courts, with few exceptions, have held that these substances are minerals and are locatable as such. The Land Department has been on both sides of the question, but the matter is finally set at rest by the act of Congress, which reads as follows:

Any person authorized to enter lands under the mining laws of the United States may enter or obtain patent to lands containing petroleum or other mineral oil, and chiefly valuable therefor, under the provisions of the laws relating to placer and mineral claims. (Act approved Feb. 11, 1897, 29 Stat. L., 526.)

Being locatable under the placer act, such lands are subject to the requirement of a "discovery" before a location can be perfected; and since, as already explained, the law gives no exclusive possessory right to the prospector while he is searching for mineral (except of the spot where he is actually at work, *pedis possessio*) there have been numerous instances where two or more outfits have been drilling on the same tract of land, each trying to make the first strike of oil and thus secure possession, and bloodshed has not infrequently been narrowly averted as a result of this feature of our senile law.

There are still other substances which should be provided for, and which were either not known to exist or not considered as valuable minerals in 1872. Among these substances we may mention radium-bearing minerals, phosphates, potash, and others salts, rare earths, and similar products, all of which are likely to prove of increasing importance and value in the future, and for the location and exploitation of which careful provision should be made in our laws.

From the very first the law has been defective in not requiring notice of mining claims to be filed with the General Land Office or some duly constituted Federal officer. Uncle Sam has been a very careless custodian of the property of his wards.

Indeed, the United States Government does not to-day possess either records or maps showing what portions of its public mineral lands have been appropriated by valid mining locations, and, being held under possessory title, do not now belong to that domain.²

Again, the law at present provides a limit to the time within which patented quartz claims may be attacked for fraud or irregularity of location, but makes no such provision for patented placer claims. Known veins within placer locations must be declared and paid for separately; otherwise, they are excepted from the placer patent and can be located by others in lode claims. All veins on placer ground not known to exist at the time application is made for patent belong to the grantee, but without extralateral rights. If an applicant for placer patent can be shown to have had knowledge of the existence of a valuable lode within his lines prior to the making of his patent application, and to have concealed that knowledge, his title as to that vein is subject to cancellation at any time upon the making of proof thereof in court by a contesting locator. There is no limit to the time for such contests, and they are still being brought, in some cases 25 years after placer patent. The law is very defective on this point, for it frequently happens that veins discovered to-day have a value by reason of improved metallurgical processes or transportation facilities which they did

¹ Snyder on Mines, Vol. I, p. 284.

² Raymond. Trans., A. I. M. E., vol. xlii, p. 617.

not have at the time when the placer claim was located and patented. The owner of such a claim is sometimes put to the expense and annoyance of defending such contests repeatedly, each time at the risk of an adverse verdict, since there is no limit to the number of contestants. The law should provide the same protection for placer as for lode claims in this respect.

The present statutes are defective also in permitting the location of an unlimited number of quartz claims in any district, and in not requiring actual and useful development. Many promising mining claims, and even entire districts, have been smothered for years by this practice. Much has been said and written about it, and every old-timer knows that the assessment work on thousands of claims which for a quarter of a century have been thus held (and by the other familiar trick of relocation of each other's claims at the end of the year on a sort of community basis), has often amounted to no more work of actual exploration than could be done by a couple of able-bodied single jackers in three months' time. And anyone who has bought mining claims in the older camps of the West can testify that he has often paid considerable sums for locations of this sort, although the physical condition of the property was in itself incontestable proof that the claims were at that very moment open to relocation or could be successfully contested at much less expense.

Considerable progress was made at the last session of Congress toward an investigation of this whole question. The Committees on Mines and Mining of the Senate and House of Representatives gave the matter earnest consideration and made favorable recommendations. Indeed, the Smoot bill providing for a commission to draft and revise the laws, after investigation of the conditions in the different mining sections, passed the Senate, and the Taylor bill was recommended for passage in the House. It failed of passage apparently for lack of attention, but there does not appear to be any serious objection nor any reason why the matter should not be taken up and finally passed at the coming session of Congress. The mining men can not believe that their needs and their wishes will fail to meet with the attention of Congress, and they come here with the confident expectation that the interests of the mining industry and the importance, to the entire community, of its protection and encouragement will be recognized in the enactment of the desired remedial legislation.

There is an old story of King Midas who was at one time exhibiting with pride the golden treasures of his vaults and the means devised for their safeguarding to the philosopher Solon. Although greatly impressed by the stores of gold and the strength of the vaults, Solon wisely remarked: "Midas, the man who has possession of the iron of the world will some day be master of all your gold." The United States is to-day in possession of not only the iron but of all the varieties of metals useful in gaining possession of the world's gold. Can it be that our National Legislature will not recognize the opportunity and provide us with the very best possible laws under which to expand and develop an industry upon which our national prosperity so largely depends?

The CHAIRMAN. Mr. Winchell's exposition has been illuminating. I used to live in Colorado and there was no agricultural industry, no raising of sugar beet in those days; everybody was engaged in min-

ing, and at that time everybody could qualify as a mining expert. We have one with us to-night who can qualify in both respects—as a mining expert and as a legal expert. In the earlier days of Colorado that State had its share of apex litigation, perhaps more than its share. Even now it has occasional cases, and in the trial of those cases there was no one who played a more prominent part than Senator Charles S. Thomas. Senator Thomas has kindly consented to speak to us to-night.

Senator THOMAS. Your presiding officer referred to me as having had experience which should have resulted in the production of a mining and legal expert. I think the same may be said of that class of mining engineers who have given their time and attention to the consideration of the geology of the metalliferous States of the Rocky Mountains, because the discharge of their duties as engineers required an intimate acquaintance as well with the mining laws and the decisions construing, or assuming to construe, them.

The last speaker is a type of that sort of engineer. I have known Mr. Winchell for a great many years. I have long known of his devotion to the subject which he has just elaborated so intelligently, and as you have heard from one of these combination mining and legal experts, who has exhausted the subject for you, I can do but little more to-night than repeat or elaborate upon what he has stated so much better than I can.

He has, to my mind, demonstrated not only the wisdom, even at this late day, but the necessity of a radical change in the mining statutes of the United States, and the reasons which he has given for it can only be emphasized by the additional illustrations of which copious instances exist. I have been somewhat familiar with the act of 1872 ever since it was passed, and have lived before and afterwards in one of the most prominent mining States of the West, whose courts have attempted, with questionable success, perhaps, to apply that statute to the varying physical conditions presented in many mining controversies, involving problems not dreamed of in previous mining philosophy. I came to the conclusion, way back in the early seventies, that the system was based not only upon one, but two or three false principles, and that the time would come when fundamental changes would be enacted and the law made to conform with our ordinary notions of the rights of property. But notwithstanding Congress has from time to time had its attention called to these difficulties, to the need of change, 45 years have elapsed, with but comparatively little alteration of the original act. It was based upon the customs of miners, the outgrowth of their experiences in California, Nevada, Montana, and Idaho, and to some extent in Colorado up to that time, those experiences having developed into a sort of common law of mining which fitted the exigencies of those days and those times. There were very few overlapping locations then, because the man making locations in those days either defended his possession successfully or lost it in the good old primitive way.

Questions of extralateral right were then largely determined, but not entirely so, along the same lines, and with much more justice in the long run than those which have since been determined by the accepted methods of civilized procedure. [Laughter.]

Now it is a principle which is not only dictated by logic and common sense, but which has behind it the sanction of centuries, that the ownership of real estate is bounded not only upon the surface, but above and below, by vertical boundaries. Hence the new principle which recognizes the right of A to invade or go beneath the land of B in pursuit of his vein, and extract ores therefrom, shocks the sense of justice of the average individual, and the difficulty of convincing the average man that the right is a just or equitable one has been too much for the jurymen of the West during the past 44 years. Hence, as is well stated by Judge Dixon in the letter which was read to you, the law of the apex—if law it may be called—is as uncertain, as unsettled, as confused, and as difficult to understand to-day as it was way back in 1877, when the Eureka-Richmond case was decided by Justice Field, of the Supreme Court of the United States, it being, as I remember, the first case construing that section of the statute after its enactment; and every subsequent decision of the courts upon this subject, upon this section, instead of clarifying has but augmented the confusion to which Mr. Dixon refers. In the last apex case I ever tried, the effect of the decision was to confer upon a man who committed perjury in the patenting of a claim, located without any discovery whatever, greater and more extensive extralateral rights than to one who acquired his claim by full and conscientious performance of all requirements of the law. That unfortunate result followed my unsuccessful attempt to defend it, relying perhaps too much on the engineering support of my friend who has just addressed you. [Laughter.]

I need not say that I refer to the case of *The Doctor Jack Pot Co. v. The Work Mining Co.* This is one of the absurd though unjust points of a statute giving the right of one man to enter upon the territory of another. Of course, the decision was an extreme one. Another peculiarity about that case was that the unfortunate owner of the premises upon the dip of the vein was the man who discovered it, and he discovered it from below by means of a tunnel which had been projected through his ground some time before, and which gave him a right of entry several hundred feet from the surface. He discovered the vein from that level. He worked upward upon it until the vein reached his eastern boundary line, where he stopped. Then the owner of the property, which had been patented without any discovery at all, suddenly awoke to the fact that the apex of this mineral was within his property, and he not only succeeded in establishing his title thereto, but also obtained a judgment against its unfortunate discoverer for damages in so large a sum that his entire property was not sufficient to satisfy it, and so he has long since gone to the wall.

In Leadville we have a peculiar mineral formation known as "blanket veins," where the owner of an apex, if he had any rights at all, would take the entire country, because of the gentle declivity of the veins into the surface of the earth. The dip of these deposits below the horizon never exceeded 13 or 13½ degrees. There the people met the situation by repudiating the law and refusing to enforce it. That, of course, is not very pleasant practice, and one which does not tend to increase or extend that respect for the law which all good American citizens should entertain, but it was largely the salvation of the camp, and from 1879 such a thing as a verdict

in favor of an apex claimant in that camp has never been known, notwithstanding the fact that the law is applicable as much to a formation of that sort as to any other, the angle of the dip being, as you know, entirely inconsequential. I do not know that the repeal of the statute now and a substitution of something else would be productive of any great amount of benefit to the miners of the West, and yet, in the event of further discoveries, it certainly would be. It can not, as you know, be amended so as to operate retroactively, but much can thus be effected by way of encouraging future prospecting, to assure the man who makes a location that, whether good, bad, or indifferent, it will be his. It may be an ill-favored thing, but his own, and in that respect, independent of any other consideration. I would welcome the opportunity to assist in making the suggested changes.

My experiences as a mining lawyer led me to the identical conclusion years ago which has been expressed here to-night by Mr. Winchell, that the fundamental basis of the enormous number of mining controversies over written locations in mining countries was the fact that our law requires a discovery as a precedent to the location; that it gave these extralateral rights; and that it permitted locations to overlap, that being the direct consequence of requiring discovery as an incident to location.

Now the vast amount of mining controversy—and I am speaking of numbers of actions—has not been apex litigation. They have been the most expensive and the most far-reaching. They have perhaps resulted in a greater proportion of injustice; but the conflicting locations have produced that multitude of cases, a small percentage of which perhaps reach the court of appeals, but whose aggregate has burdened the prospector and locator with an expense almost unbearable. I do not believe I exaggerate when I say that the surface of Cripple Creek district is covered six deep with locations, one after the other, each claiming by right of original discovery, and stimulated by the fact that the original discoverer under the statute is entitled to the property. Smith makes a location. The ground seems to be promising. Jones comes along and makes a location that overlaps it, on the ground that Smith lied when he said he discovered the mineral at the place he, at the time, mentioned in his location certificate. Brown concludes that both are mistaken and consequently sinks a third shaft. He also occupies the whole or part of the same territory. By this time the whole camp follows suit and all make locations accordingly. As a consequence, every claim is overlapped and every claim contested. It is worse than a Chinese puzzle. It has to be straightened out by proceedings in the Land Office, by adverse actions in the courts, or by both, and I need not assure you that the process is tedious, heartbreaking, and expensive.

Another evil consequent upon the law which requires discovery before location, and the section conferring lateral rights, is that they have created a veritable paradise for the blackmailer and the scoundrel. The law has, by virtue of these two sections, offered and occasionally paid premiums to every disreputable individual who takes advantage of their possibilities—and there are many unscrupulous people even in the West. It is easy money, as any miner will tell you,

to make spurious locations over valuable claims and compel compromises by the uncertainty and expense of litigation.

The contrast between the maps of mining camps in the United States and of mining camps in Canada which Mr. Winchell has exhibited spells all the difference between fairness, economy, and integrity of location on the one hand and confusion, blackmail, and injustice upon the other. I contend that our mining statutes, in the light of their history, are a disgrace to the civilization of this Republic. [Applause.]

There is another feature of the mining statute which deserves also a share of adverse criticism, and that is the section which provides for location of tunnel sites upon the public domain. These tunnels, as you know, may be extended 3,000 feet in length, and when located they virtually segregate from the public domain a piece of ground 3,000 by 3,000 feet as to all veins not appearing at the surface and not known to exist therein, provided work be done so constantly that there shall be no break of six consecutive months; in other words, consecutive work upon a tunnel site is complied with by doing work to-day and doing work six months, less one day, hereafter. This gives the tunnel owner the right to all unknown veins subsequently discovered within a square 3,000 by 3,000 feet bisected by the tunnel.

You can imagine the potential consequences of a location of that sort in a section of country that is prolific in mineral veins. Take, for example, its effect upon the validity of a subsequent location upon its included surface and made upon a discovery of a blind outcrop. We have had a great many of these tunnel locations in my State, and I recall one in Cripple Creek, dated shortly prior to the discovery of the great Portland vein near its terminal boundary. The fact so imperiled the title to that great property that the owners deemed it prudent to pay a very considerable sum for the tunnel site, good for nothing as it was, in order to secure their property from attack and relieve their title of its menace.

Across this tunnel site was located a lode claim just a few days after its lines were marked. A patent was afterwards issued for this lode claim by the Government of the United States, and in the litigation which ensued between the tunnel owner and the owner of the patented claim the Supreme Court held that every vein along the line of that tunnel not known to exist at the time and not appearing at the surface when discovered belonged to the owner of the tunnel, so long as it was kept alive by performing the required work upon it. The result of that case was to deprive the owner of the patented claim of the identical vein which he had discovered and which was granted to him by his patent. I do not mean to say that the courts declared in terms such to be the result. It recognized the validity of the patent, but the unfortunate fact to its owner was that the vein in dispute was the vein which he had discovered and located. It therefore passed to the owner of the tunnel, notwithstanding the fact that but a few hundred dollars' worth of work had been done upon it when the lode claim was patented. The tunnel section therefore is quite as pernicious, and to my mind quite as objectionable, and affords opportunities for wrongdoing and injustice quite as extensive as the apex section.

Now, the uncertainty of results when such a law is applied to facts prompts some men to take chances and deters others from act-

ing upon apparent certainties. I have known of a great many thousands of dollars eager for investment in mines upon a guaranty of title which retired before the possibilities of hidden or apprehended danger. I know of instances where investments have halted when titles were perfect, but when lateral invasions might result from subsequent underground developments.

No man wants to buy a lawsuit, especially not a mining lawsuit. I heard the judge of the United States Circuit Court for the District of Colorado once say that however valuable a mine might be if it became involved in litigation there was an even chance that in the end its owner would be bankrupt in pocket, in morals, and in reputation. [Laughter.] On the other hand, I have known men to take many and desperate chances because of the existence of these sections, and the uncertainties attendant upon their construction and application to existing controversies.

I once had a client in Leadville, a great big red-blooded Irishman, who owned a couple of claims. He organized the St. Bernard Mining Co. and conveyed the claims to it, and in developing them Mr. Finnerty's exchequer ran very low. Shortly afterwards, however, his mine seemed to be yielding fairly well; his company was evidently in good circumstances—so good, indeed, that a suit for \$250,000 damages was brought against him shortly afterwards by the owners of a neighboring property. At the trial the plaintiff proved that my client had crossed his lines, and had taken quite a handsome body of ore from the neighbor's claim and had disposed of it as his own. When asked upon the stand why he did it, he said: "This apex law is very uncertain, anyhow. We was needing money. The ore was there and I thought, therefore, I would take chances and make a forced loan." [Laughter.] Unfortunately the gamble did not, in his instance, prove successful, but they frequently do, and a law which is so unstable, susceptible of so many and such contrary constructions, which tempts the unscrupulous and deters the honest investor, should be revised. If it can not be revised it should be repealed.

This body, by riveting the attention of the country upon the subject, will, I trust, obtain some action by the present Congress. We have a good deal to do, but we are prodigal of our time. The body to which I belong can outtalk any other ten bodies of the same sort in the world. Sometimes it does business and sometimes it does not. We did some things during the 22 months that we were last in session. We could have accomplished all that was accomplished in five and then had time to spare. If we were able to limit what we call debates in the Senate of the United States I could speak quite confidently to-night and give you some assurance that we would be able to revise these statutes, or at least to make a good beginning at this session; but as it is I am unable to say what may be done. We shall simply do our best.

You have one of the best mining lawyers in the United States at the head of the Committee on Mines and Mining of the Senate, a man who has had wide experience and practical experience in the administration of this statute, and a man whose heart is in his work; and I know that if the Senate would cooperate with him as it should the relief which you are demanding, not on your own account, but for the great mining industry of the United States, would be granted

by the Sixty-fourth Congress. My hope is that when you shall meet again one year hereafter we will be able to make a report to you which, if not entirely satisfactory, will be encouraging. [Applause.]

The CHAIRMAN. At Leadville, in the State from which Senator Thomas comes, there was perhaps the best example of the absolute repudiation of the law of 1872—the law of the apex—it was not workable there. The law of discovery was not very satisfactory. They also had more or less litigation over the placer locations versus lode locations. Town-site locations caused an equal amount of trouble, and finally, after the trial of all those things, the people of Leadville said, “We will get along without any law,” after which they did pretty well. There are some of our States that have escaped litigation over the law of 1872; some of them have had more or less, and among those that had more of it is Montana. That State is one of the most brilliant examples of the failure of the law of the apex. I wish Congress could have before it a model of the great ore deposits of Butte—a model showing the intricacy of that great system, the criss-crossing veins—and then ask them to tell us how the law of the United States is to be applied to that case. In Butte, however, the best excuse for the law of the apex that I have heard has been offered; namely, that in performing the prospect work necessary for the trial of a costly apex case unexpected ore deposits were sometimes discovered having a value greater than the cost of the litigation; in other words, many veins not otherwise suspected were discovered in the course of this exploring work.

We have with us to-night not merely a distinguished mining lawyer from the State of Montana, but also the chairman of the Senate Committee on Mines and Mining, who is intensely interested in this whole subject. I have great pleasure in introducing to you Senator Walsh, of Montana.

Senator WALSH. The law of the apex does not seem to have many friends in this audience, and, that being settled, I am going to devote myself to some other features of revision of the mining laws.

In the opinion in *Clipper Mining Co. v. Eli Mining Co.* (194 U. S., 220, 234), the Supreme Court of the United States quotes with approval the following comment from Lindley on Mines, 167, viz:

The town-site laws, as they now exist, consist simply of a chronological arrangement of past legislation, an aggregation of fragments, a sort of crazy quilt in the sense that they lack harmonious blending. This may be truthfully said of the general body of the mining laws.

To mention revision of the mining laws will ordinarily prompt in the mind of a lawyer concerned with such, and perhaps in the mind of an engineer whose activities are supposed to be regulated by them, reflection on the wisdom or unwisdom of abolishing extra-lateral rights. Unless his attention has in some special manner been directed to other incongruities in the law, it is more than probable that he will extol the perfection of the system under which we have been working as the foundation of the mineral development of the West and the sure guaranty of its future prosperity.

The record of 40 years is the best encomium that can be pronounced upon it. It has admirably served the purpose with which it was designed, to promote the rapid development of a wild, unexplored country and to meet pioneer conditions.

In order to have a better understanding of how well it meets present-day conditions, it should be considered in connection with those prevailing when the system, so highly extolled, had its birth. At the time the mineral-land code was enacted, mining operations in the public-land States were confined almost exclusively to the washing of auriferous beds and the extraction and reduction of gold and silver-bearing quartz.

The act of 1866 specifically named gold, silver, cinnabar, and copper in section 2, which provided for the location of quartz claims, and it used no generic term authorizing the location of veins bearing any other metals. Cinnabar was being mined at the time of the passage of the act, the mercury it yielded being used in the process of amalgamation, then the standard treatment of gold and silver ores. The prospective value of ores carrying copper was not overlooked, but in those days cupriferous ores were penalized, just as ores carrying zinc were penalized at a later day, because their presence interfered with the processes then in vogue for the extraction of the gold and silver. It was not until 1876 that the systematic treatment of copper ores began in Montana. The act of 1872 added lead and tin to the list of metals enumerated in the act of 1866, and then, because no other metal had attained sufficient prominence to give it place, but in recognition that veins might be found carrying other metallic substances of value, the specific enumeration was supplemented with the general language "other valuable deposits," under which veins containing such minerals were made equally subject to location. The placer-mining law of 1870, reenacted in 1872, was framed primarily to permit the appropriations of gold-bearing gravel beds. The language of the act is "claims usually called 'placers,' including all forms of deposit excepting veins of quartz or other rock in place." The word "placer" is restricted in its significance, except as it is expanded by the statute just quoted, to beds of gravel carrying gold.

The originators of the mining laws were providing for the immediate necessities of their time—for laws that would permit the mining industry as it had developed in their day to go forward. Their minds did not dwell upon the infinite variety of "all forms of deposit" that might in time claim recognition as placers. It was gold placers to the appropriation of which they adapted the law. And so there was little clarity of vision as to what might be embraced within the designation of a vein containing "other rock in place," not quartz, bearing "other valuable deposits." The act was framed with no very accurate idea of any mineral deposit except one closely resembling the ordinary quartz vein bearing gold, silver, cinnabar, lead, tin, or copper. To illustrate: The appropriateness of applying the law to a deposit of phosphate, sedimentary in its origin and essentially different from a vein geologically, however it may resemble a vein in appearance, it is needless to say, received no thought from the lawgivers of the seventies.

The mining business has expanded until it embraces a multitude of deposits, and deposits in a multitude of forms, differing in character so essentially from those familiar to the times in which the existing laws had their origin that, as applied to such deposits, they are often grotesquely incongruous. Take deposits of oil and gas

for instance. The language of the law permits them to be located as placer. It authorized the granting of patents to lands containing such on the same terms and under the same conditions as lands consisting of or overlain with beds of gravel through which are interspersed particles of gold. The hardy and venturesome prospector, often leading a hermit life, penetrated the remote wilds and, having found "colors" in the gravel in the bed or on the margin of a stream, made, by his find, a "discovery," such as is contemplated by the placer act. He was then entitled to mark out his claim. Thereafter he constructed a ditch by which the water of some adjacent stream was brought upon his claim to be utilized in washing the pay dirt. His preliminaries completed, he proceeded to mine his ground. When he had expended \$500 in labor and improvements upon the ground, he became entitled to a patent, paying \$2.50 per acre. He required no special training and little technical skill to fit him for the arduous calling to which he devoted himself. The erudite scientist would have very little advantage over the unlettered prospector in hunting for placers. Having made his discovery, it was often necessary to make large expenditures in perfecting the arrangements for the economical working of his find. I have often gazed in unrestrained wonder at the remains of some old flume of the pioneer days clinging to the face of a cliff on which an eagle would scarcely find a perch. But the discovery itself involved no important antecedent expense, though subsistence while traveling in the search must be provided.

Oil prospecting is an altogether different affair. Unless it is rank wildcatting, a geological survey of the country must be made. If the expert is unable to tell where oil will be discovered, he at least can advise where in all probability it will not be. He can tell whether the geological conditions at any point that might become the scene of drilling operations are favorable or otherwise. There is no way of making an oil discovery, practically speaking, except by drilling. Seepages signify nothing. The pool drained by them may be miles away and the land in which they occur be utterly valueless from a mineral point of view. A drilling outfit is an expensive affair and costs money to operate. A placer miner's essential equipment is a shovel and a pan. When the oil prospector strikes oil—that is, makes his discovery—he has ordinarily spent many times \$500. Nothing more is required to entitle him to patent. Finding oil, he gets title to 20 acres. If seven associates go in with him, they may take 160 acres. Then the ground about becomes the scene of feverish activity. Some rich and powerful adventurer, or a flock of such, sinks on the adjacent ground, and, reaching the oil sands, proceeds by means of powerful pumps to empty his claim and the whole pool, the existence of which was revealed by his genius and his enterprise. Even while he was going down, he was at the risk of finding himself in a race with a competitor lured to the region by the promise his labors had excited. It is not the man who first begins, but the man who first gets oil, who takes the ground. What chance has the ordinary man in such a race with the Standard Oil? Rivalry of that character naturally breeds hatreds that lead to bloodshed and breaches of the peace. Conditions quite akin to those imagined prevail to-day in the new oil field in northern Wyoming and southern Montana. The placer-mining law is wholly inappropriate to the

development or disposition of oil and gas lands. It is no impeachment of the wisdom of the framers of the law that this is so. They had no conception that it would ever be applied to such lands, though it is the only law under which they can be or ever have been patented.

Another fact in this connection is that a conviction has seized upon the public mind that the old liberality in the giving of the public mineral lands as a reward for discovery ought to undergo some restraint with reference, at least, to those deposits that were not contemplated by the framers of the existing law, however such deposits may fall within its language.

The Argonauts were enemies of monopoly. Penetrating into regions in which there was no organized government, they established the reign of law which they enforced rudely but ruthlessly. In popular meeting they promulgated rules afterwards sanctioned by express congressional enactment, with respect to some of their features at least, a very common provision of which was that no man might take more than one claim, with an additional one to the original discoverer, in the district for the government of which the rules were established. The act of 1872, however, evidently to promote exploration by holding up greater rewards, permitted one to locate as many claims as he chose, burdening him, however, under penalty of forfeiture, with the obligation to do \$100 worth of work on each annually. Accordingly, one may locate an indefinite number of oil claims under the existing law; for every well he sinks to oil he may appropriate 160 acres of land, assuming that seven other adventurers associate themselves with him. Associations backed by capital that may almost without hyperbole be referred to as unlimited, known to operate in the oil fields, may easily monopolize a rich but limited field. The preservation of their monopoly will impel them to resort to every means to command a promising source of supply. Recent activities in the new field heretofore referred to, bearing every evidence of a purpose to monopolize the productive area, induced the Secretary of the Interior to withdraw from entry six townships, awaiting the enactment by Congress of some more appropriate law with reference to oil-bearing public lands. It may be open to question whether, unless speedy action is taken by the National Legislature, this measure, intended to safeguard the interest of the public, will not operate to make more valuable the monopolistic privileges already secured. Meanwhile, development of the region into which capital is ready to go in very great sums is indefinitely arrested.

Whatever view may be taken as to restricting the unrestrained liberty now accorded in continental United States in the location or acquisition of gold placer claims or of veins bearing metals other than the rare metals, it will probably be conceded that a limitation should be placed upon the area of oil or gas land that one person may appropriate, just as a limitation was placed upon the area which any citizen might acquire under the coal-land act. Every reason that suggests that the area of coal land one may take should be limited applies with equal force in the case of land valuable for the oil or gas it carries. It was recognized, when the present mining laws were in process of making, that those provisions dealing with the mineral lands generally were inapt in the case of lands valuable for the coal in them. They became, accordingly, the subject of

special provisions. Metallic mining, however, occupied a preeminent place in the minds of the framers of the code. Coal mining had made comparatively little progress. Wood was everywhere the ordinary fuel, the public timbered lands being available to the miner either by the acquiescence or by the express authority of the National Government. Colorado, California, and Wyoming were each producing coal in 1872, but the output was inconsequential. Montana did not yield any until 1880.

The coal-land laws gave evidence of having had relatively scant thought from those designing them. The citizen was denied the right to take more than one claim of 160 acres if he purchased singly without having made improvements, 320 in association with another, or 640 if they had done work or labor or made improvements of the value of \$5,000 on the claim, the discoverer being given a right of preemption.

It was quite right to limit the area of coal land which any individual might appropriate. Ordinarily a coal seam obtrudes itself upon one from a river bank or an eroded hillside. The trained scientist might go searching for a coal deposit with some chance of running onto it. The ordinary man would be without a guide in his quest, even the topography of the country, of general aid to the quartz or placer prospector, affording no substantial assistance. But the exposure once having been found, it is a comparatively simple matter ordinarily to trace the deposit through the adjacent country, often in beds extending through thousands of acres. A hateful monopoly might easily be established, particularly as coal mining—commercial coal mining—requires elaborate and expensive equipment. The area open to purchase was, however, never adequate. Even 640 acres of western coal land were never at any time sufficiently extensive to justify the large expenditure necessary for development and equipment essential to carry on coal mining on a commercial scale. From the first this restriction in the law was evaded by the well-known device of dummy entries, a practice tolerated because otherwise the law would have been inoperative, until recent years, when it has been held not only illegal but criminal. The consequence of the enforcement of the law has been that appropriation of coal lands has all but ceased.

Another cause has contributed to the suspension in the appropriation of coal lands. The law gave to the citizen the right to purchase the area heretofore indicated at, to use its language, "not less" than \$20 per acre if the land was within 15 miles of a railroad and "not less" than \$10 an acre if more than 15 miles from a railroad. The language clearly implies that the lands are to be valued, but at not less than the figures named. But until recent years the law has been executed as though the prices of \$10 and \$20, respectively, were absolutely fixed by it. The plain error in the old construction of the law having been recognized, extensive areas were withdrawn for valuation and when restored, after must procrastination, were often offered at an appraisement so high that no one would buy. There is room for believing that the department officers charged with valuing, being averse to the entire policy of selling the coal lands, valued them so high that sales have practically ceased. Only 63 entries were made in 1914 for 8,157.45 acres, as against 248 entries of 38,325.26 acres in 1910.

The extremists are not all on one side. Enthusiastic gentlemen, with undue reverence for the things of the past, deplore that any change from the ancient practice was ever inaugurated. They would have the Government dispose of its coal lands, in view of the development and demand of the year 1915, on the same terms on which they were offered to the pioneers 40 years ago. Some of the lands in question have in recent years been sold at as high as \$400 an acre. It may have been a wise policy 40 years ago to invite the public generally to take as much as they cared to of the public domain, but it scarcely comports with an honest discharge of the trusteeship of the General Government with respect thereto not now to exercise an exceedingly cautious supervision over the disposition of the remainder, and particularly to limit the area that may be taken of those deposits with respect to which a monopoly might be acquired. Coal, oil, and gas constitute a great source of power. On these combustibles and on electrical energy developed by falling water industry is dependent for power. Hydroelectric plants equipped with a distribution system become public utilities and as such are subject to State regulation. It is doubtful whether it is possible to regulate by law the price that may be charged for coal. A monopoly of that commodity is, accordingly, more to be dreaded than a monopoly of water power.

There is a further reason why the area one may appropriate of coal, oil, or gas land should be limited. The opportunity is extended to take an indefinite number of quartz or placer claims in order to spur search and promote discovery. In the case of coal, however, a very extensive, if not complete, survey has been made by the Geological Survey, in most of the regions within the public-land States, in which it is probable that coal deposits may be found. One searching for coal need not tramp the hills nor endure the privations of the pioneer prospector. He consults the Government publications and governs his actions accordingly. One might indeed find beds that had been overlooked, but deposits of such vast extent have been pointed out that the discoverer of limited areas that have escaped notice is entitled to no special remuneration.

This consideration applies as well to such nonmetallic mineral deposits as phosphate and the compounds of potassium and sodium. The location of many such deposits has been pointed out by the Survey. The man who, guided by it, begins operating on a deposit of that character is entitled to no reward as a discoverer.

It is still involved in more or less doubt whether phosphate rock is properly locatable under the placer-mining law or as a lode. The Interior Department is apparently wedded to the view that the lode law is applicable, but an authoritative adjudication is wanting. So it is not altogether clear whether potash, in the form in which it is found in the West, is subject to location under the placer-mining law or under the law applicable to salines. For various reasons nearly all deposits of valuable nonmetallic minerals were withdrawn from entry under the act of August 24, 1912. The uncertainty as to what law must be pursued to acquire title to many of these deposits, and the more or less glaring inappropriateness of any of those we now have for the disposition of them, were among the reasons inducing the orders of withdrawal. It is high time that provision should be made that they may be released for entry.

The annual consumption of potassium salts in this country at the time the European war began was 800,000 tons, all imported from Germany. No little distress has been occasioned by the closing of that source of supply. The importations during 1915 have fallen quite 25 per cent. Recent discoveries in Utah and Nevada bid fair, with the Searles Lake salts, easily to supply the domestic demand.

The necessity for a general revision of the laws as they affect the disposition of lands bearing metallic minerals has been repeatedly set forth. As the local conditions become less and less like the primitive setting, out of which our existing laws came, the necessity for a change becomes more and more imperative. The development of the system of dry farming has given a high agricultural value to thousands, yes millions, of acres heretofore regarded as valueless for tillage. On an inquiry as to whether a certain tract may be appropriated as mineral land, it is of first importance to the mineral claimant to establish, if he can, that it has no value for agricultural purposes. Great areas have, by the advancement in farming methods, been transformed from mineral to nonmineral lands. Innumerable controversies have arisen in consequence of the changed conditions. The ubiquitous dry farmer has intruded into regions long regarded as the undisputed and indisputable territory of the mining prospector. The latter is under no obligation to make, nor does the law warrant him in making, a record of his claim in the land office. He awakes some morning to find that the ground to which he has for years pinned his faith is included within the filing of a squatter who is proceeding to make good his assertion of title by the erection of a house on the land. A long and expensive hearing in the land office is before him, likely to be characterized by much bitterness. The mineral claimant knows little or nothing himself about the surprising results that have attended careful cultivation, and is likely to regard the newcomer as a blackmailer. The homesteader, knowing nothing of mining and unskilled in recognizing indications of more or less significance to a practical prospector or miner, is likely to regard the mineral claimant with feeling akin to contempt—as a visionary.

The situation is highly critical in many sections of the West, but no very satisfactory solution has yet been evolved. It has been proposed that a classification be made, and that prospecting permits be issued for limited areas of lands, classified as mineral, within which area the prospector will be safe from the intrusion of the insatiable homesteader. But an old prospector who should be turned out of the possession of a property upon the judgment of some callow youth, acting under instructions from Washington, who should return the region as agricultural, would see few beauties in such a system. Regardless of his wrongs, areas rich in mineral wealth might easily be excluded even under the most careful and thorough survey. Public thought has not yet crystallized upon the plan that ought to be adopted to meet this problem, if indeed it has crystallized concerning any of the various features of the law in relation to the metallic deposits, in respect to which it has been urged that a change ought to be made. There is very general concurrence in the idea that the extra-lateral right ought to go. But there is still much confusion of counsel as to the change which ought to accompany its abolition, that the right of the discoverer to enjoy the fruits of his

skill and toil may be measurably secured. These and like reforms may well await the return of the report of the commission to revise and codify the laws in relation to the mineral lands, provided for by a bill which passed the Senate at the last session and to-day was favorably reported again by its Committee on Mines and Mining.

But the conditions confronting us with respect to the nonmetallic minerals brook no such delay. In the task before Congress it would be of inestimable benefit to have the views of the commission, ripened by conference with men whose professional work has required them to give earnest thought to the subject, men who have their money invested in the mining or reduction of such deposits, or who are ready to put money into enterprises looking to the utilization of the rich stores of nonmetallic minerals found in many of the Western States. Of phosphate lands 2,611,115 acres, nearly one-half of them in the State of Wyoming, remain withdrawn from entry—all those of which the Geological Survey has any knowledge.

The insoluble phosphate rock as it comes out of the earth is converted into a soluble fertilizer of great value by the application of sulphuric acid. The active element, by the same process, is preserved in a concentrated form so that the product can stand shipment for considerable distances.

Until recently the copper smelters of the West were daily belching into the atmosphere prodigious quantities of sulphur which, descending in acid form, became destructive to vegetable life and imperilled animal husbandry. Costly litigation conducted by private suitors, and by the General Government, forced the installation of processes by which the fumes are robbed of their sulphur ingredient. Sulphuric acid is now the common by-product of the smelting of sulphide copper ores, but the market is distant and the production enormous. It is conservation of the highest order to use this corrosive element in copper ores, hitherto worse than waste, in making a fertilizer to restore the virgin fertility of the wheat fields of the Northwest. The productiveness of these wheat fields is suffering continual depletion. The average yield of wheat per acre in the State of North Dakota during the past 10 years was 11.5 bushels; that of South Dakota, 11.4 bushels, as against 13 bushels for the two States during the decade between 1880 and 1890. Despite crop rotation and the improved methods inculcated by the agricultural colleges, experiment stations, farmers' institutions, and other educational influences, the yield in Minnesota has suffered a decline of at least a bushel an acre during the last 10 years. A reduction of one bushel per acre in the three States named signifies an annual loss of 15,000,000 bushels of wheat.

The Anaconda Copper Mining Co. is willing to spend \$2,000,000 in the installation of a plant for the mining of phosphate rock and the construction and equipment of a plant for the production of phosphate fertilizer. The only obstacle to the inauguration of this great enterprise, signifying the development of a new industry in the mining region, and added riches to the farmers of the Northwest, is the want of a law which will permit the mining of phosphate deposits. Other investors are ready to enter the same field.

The situation is even more deplorable in respect to oil. The recent decision of the Supreme Court upholding Executive withdrawals of land believed to be oil-bearing, awaiting congressional action

touching the appropriation and disposition of such, has invalidated titles acquired upon the advice of counsel to the effect that such withdrawals were without authority of law. In many cases developments involving enormous expenditures in the aggregate have been made in reliance upon such titles. Not infrequently new fields were opened up in consequence of discoveries made by individuals who had been led to believe that such withdrawals offered no legal obstacle to the acquisition of title. Injunctions were secured in the suits brought by the Government, which are now made perpetual, restraining the operators from taking any fluid from the wells. The institution of suit operated, ordinarily, to stop extraction, as buyers of the crude oil refused to take the output of any well open to question, lest they should be obliged to pay a second time to the Government. The paralysis extended to many tracts involved in no suit, but which were within the area withdrawn.

In another class of cases instituted by the Government, locations of more than 20 acres were attacked on the ground that most of the locators were fictitious or dummies, a proceeding calculated, however necessary to the public rights, to cast a suspicion upon all titles not confirmed by patent. In not a few instances communities had been built up about the wells involved, which now face ruin. Meanwhile, wells sunk on adjacent lands held in private ownership are industriously draining the field affected, so that the Government, as well as the claimants, are suffering a daily irreparable loss. The situation is particularly acute in the States of Wyoming and California. The Southern Pacific Railway grants, in the last-mentioned State, give to that company, in the unfortunate complications which have arisen, a commanding position, and it is openly charged that the Standard Oil Co., to which the railroad company is allied, finds abundant opportunity for its customary strategy in the lamentable condition that has been precipitated. These special considerations aside, 4,829,667 acres of oil lands are now under withdrawal orders, over one-half of which are within the two States named.

Never before in the history of our country has there been such a plethora of money looking for profitable investment. All who have given any consideration at all to the subject are agreed upon the necessity of doing something to permit the appropriation of the lands, so useless as they are, so prolific of wealth under development.

It is over what to do that the fight waxes hot. A bill dealing with the general subject of nonmetallic deposits, coal, oil, gas, phosphate, potash, sodium specifically, passed the House at the last session, and, with the provision relating to coal and some amendments of more or less consequence, was reported favorably by the Senate Committee on Public Lands. It was introduced in both Houses at the present session in its original form, and is now before the appropriate committees. It is savagely assailed because of its frank adoption of the leasing principle. This association could render no more valuable public service than in candid recognition of the state of the public mind, to canvass with perfect freedom the provisions of the bill, and to record its judgment concerning the wisdom of the general plan proposed by it. With the desire to see some practical measure enacted into law at the present session, it is fair to assume there will be here entire sympathy. In that connection it might be borne in mind that no other comprehensive measure, purporting to deal with

the subject, is before the present Congress nor was any presented to the last Congress. Varicus bills, fragmentary in character, representing no views except those of the individual Members proposing them, were indeed introduced. None of them, at least so far as my information enables me to speak, were the product of any concerted action on the part of any group of men, who had given either thought or study to the subject.

The bill specifically referred to took form as the result of conferences between the heads of the Committees on Mines and Mining and Public Lands in the two Houses of Congress and the Secretary of the Interior, aided by the Director of the Geological Survey and the Director of the Bureau of Mines. The assault is not on matters of detail. The leasing feature, the essential principle of the bill, draws the fire. It is said to be unconstitutional to lease the public lands, violative of the compact between the States upon which is built the fabric of the Union. Grave questions of constitutional law, it was asserted on the floor of the Senate a few days since, are presented by the departure which the bill is said to introduce. Those familiar with the discussions of this and related subjects in the past know that the Supreme Court has decided to the contrary (*United States v. Graiot*, 4 Pet., 751). It impoverishes the States, it is advanced, by withholding from them the right to tax the leased lands. As long ago as 1876 the Supreme Court held that the possessory right to mining lands is subject to State taxation, the property involved being the great Comstock lode (*Forbes v. Gracey*, 94 U. S., 762), and this decision was recently affirmed in *Elder v. Wood*, 208 U. S., 226, a case coming from the State of Colorado. The leasehold interest might by express provision of the statute be made subject to taxation by the State, and it would be so subject without any reference to the subject.

But this objection becomes ludicrous in view of the fact that scarcely any western State undertakes to tax mining lands, except upon a nominal valuation. The output, net or gross, is the basis of taxation in practically all of them. By constitutional provision, the State of Montana has disabled itself from taxing mineral lands as such, except for such sum as represents the Government price. The net proceeds are taxed whether the title to the lands from which they issue is in the Government or held by private individuals.

In Colorado all mines producing more than \$5,000 gross annually pay on the net proceeds; it is only those producing less than that amount that are valued for taxation. Utah made the provision of the Montana constitution her model. Idaho has followed it in her statute. Wyoming taxes the net proceeds of its mines. It imposes no taxes on the lands themselves. Nevada has the same system.

The States' revenues will be neither greater nor less under a leasing system applicable to non-metallic minerals than they would be if such lands were alienated in fee, except as taxes might be wrung from lands to which title might be acquired and which were allowed to lie idle in order to forestall their acquisition by some one who might work them, or from lands acquired by one who might choose to hold them until by the growth of the community, the development of the industry in which they are calculated to play a part, or other conditions make the investment sufficiently profitable to induce their disposal. In other words, the State would lose the taxes on lands entered or held with purely speculative intent. It has even been

proposed, but I can not think with reflection, that the lands with which we are particularly concerned, at least the coal lands, should be put up for sale to the highest bidder. This suggestion emanates from those who exhibit a deep concern about the limitation on the State's power to tax, consequent upon national ownership.

Millions of acres would, under any such system of disposal, pass into the hands of speculators. The condition of the market does not justify the purchase of any extensive areas for immediate working. The price at which the lands would be sold could only be such as to assure the purchaser at some distant day in the future, when the market is active, the return of the investment with a speculator's profit. Deposits of vast extent and volume have at present only a potential value, particularly the lignite beds. In the more or less remote future, when the population of the Rocky Mountain region is much more dense, when railroads have multiplied and industrial activity has built up teeming cities, the low-grade coal of the West will have a value, now incalculable, perhaps inconceivable. Coal is a low-grade, bulky article of commerce, and will not stand shipment by rail very great distances.

There is much merit in the proposal to turn these lands over to the States in which they are situated. The suggestion that they be turned over to private speculators at their present cash value is wholly vicious.

The objection to the leasing system on constitutional grounds is utterly devoid of merit. The argument that it unduly restricts the State's power to tax, at least in respect to mineral lands, is scarcely entitled to more consideration.

There would be a perfectly valid objection to the exaction of a royalty which should go into the Federal Treasury for the general expenditures of the Government, like the ordinary revenues. Tribute so paid would be nothing less than a tax levied upon a particular section of the country. But under the provisions of the bill to which reference is made, all royalties go into the reclamation fund, as the proceeds of sales do now, and will be utilized for the construction of works of irrigation in the communities from which the revenues come. When eventually returned to the Treasury by the settlers under the projects, one-half goes into the treasury of the States, respectively, from which they were originally paid.

It is advanced that development would not take place under a leasing system—that the American investor is so wedded to the idea of a perpetual interest, a title in fee, that he could not be induced to put his money into an enterprise founded on less, and particularly that he would shy away from a lease from the Government. I confess that this idea had possession of my own mind at one time—the prospect as to coal lands engaging my thought. I am not sure now that this view is wholly erroneous, but my conviction about the matter has been much shaken. The Western States are beginning to realize substantial revenues from their coal lands under the leasing system, to which they are all committed with respect to their own properties. For the biennial period ending November 30, 1912, Colorado realized \$102,585. Wyoming received \$74,772 out of coal and oil leases during 1913 and 1914, an increase of 250 per cent on the preceding two-year period, which yielded six times the revenue derived from that source in 1909 and 1910. The Chicago, Milwaukee & St. Paul Rail-

way Co. tried hard during the last Congress to secure authority to lease two sections of coal land in Montana. It is said that at least one-half of all the bituminous coal mined in this country is taken out under leases, and it is urged by those favoring the leasing system that if the operator is given his choice either to buy or to lease upon a royalty he will invariably lease, because he thus escapes the necessity of the initial investment in the land itself. In order to determine which system the more surely and rapidly promotes development it is proposed to continue the present law permitting the purchase of coal lands, giving to each qualified purchaser the right to acquire two sections, the operator who prefers to lease being accorded the right to develop under that plan by what is known as the general leasing bill. The plan it presents, provoking so much opposition on the one hand and so resolutely supported on the other, seems particularly appropriate in the case of oil lands. The interests caught by the decision of the Supreme Court in the Mid-West Oil Co. case are here piteously pleading for an opportunity to lease the properties severally occupied by them. A house to house canvass is to-day going on throughout an extensive region in northern Wyoming and southern Montana among homestead patentees and other owners of land in that locality to secure leases authorizing the exploration of the lands affected for oil, gas, and coal, and the extraction of any of such minerals as may be found therein, the activity in that regard being induced by most gratifying results recently attained by venturesome prospectors on both sides of the State line. Those engaged in this rivalry would undoubtedly be pleased to take leases from the Government on the same terms they are offering to private owners. A representative of some of them at the Capitol a week ago voiced the hope that such an opportunity would be speedily afforded. He expressed the view that the prospector of modest means was now deterred from experimenting on public land open to exploration, lest, having begun operations on a promising field, one of the outfits suspected of sustaining intimate relations with the masters of the oil industry would set up a drill immediately beyond the ground of which he could claim the *pedis possessio* and "beat him to it." It is asserted, with what justice I do not pretend to say, that in such rivalries the outsider finds himself strangely embarrassed about securing supplies, and particularly pipe and the necessary implements, and even about effecting the necessary repairs incident to the work.

A private owner of land known or believed to be oil bearing would ordinarily prefer to take a royalty from one desiring to operate rather than to accept what he might be able to get in cash for the property. If no one would lease, but all owners insisted on selling outright, exploration and development would unquestionably be curtailed. It would be confined very largely to those able to command the services of scientists of the highest class that the chances of paying big prices for land that would prove valueless might be eliminated and who were able to pay the high initial cost which the acquisition of absolute title to the land would entail.

Touching phosphate lands, I am able to assert that no fear whatever need be felt about their active exploitation under a leasing plan. I have been importuned by two companies, amply able to provide all the necessary funds to put fertilizer on the market in large quantity,

both of which are willing to spend money to educate the farmers of the Northwest to the advantage of its use that a market may be created, to expedite the passage of some act under which they may secure leases of phosphate deposits. I am advised that an equal avidity exists touching deposits of potassium salts.

"There is a tide in the affairs of men." If there had existed any law under which, in the state of public sentiment, coal mining could have gone forward in Alaska 10 years ago that Territory would be a hive of industry to-day. It would, in all probability, not have been necessary for the Government to engage in railroad building in that country. The most sanguine expectations were indulged touching the opportunities for profitable investment in the mining of coal in that Territory. The market was large. While the "tie-up" continued other fields were opened up in the British possessions. The use of oil for fuel was extended enormously and its production stimulated. It is a serious question as to whether the day of opportunity for Alaska, so far as its coal is concerned, has not passed by.

The conditions are all ripe for the opening up of the western lands that are rich in oil, gas, phosphate, and potash. The money centers of the East will be looking solicitously for promising investments for the employment of the bulging accumulation of money which the conditions of tremendous crops here and a hitherto unheard of demand for our products abroad is bringing them. Montana will realize this year and have for investment \$25,000,000 over and above the returns of an ordinarily profitable season.

Every patriot may indulge the hope that this meeting of the American Mining and Metallurgical Society may find it possible to smooth the way for the enactment of legislation at this Congress which will revivify the mining business so far as that result depends upon the laws relating to the disposition of the public mineral lands.

The CHAIRMAN. We are deeply indebted to Senator Walsh for the very broad view that he has given us of the deficiencies in the existing mining law. While other speakers have dwelt especially upon the law of the apex, he has given us a broad view of the whole subject.

Gentlemen, our program is now finished. We have done what we came to Washington to do, namely, to express to Congress the practically unanimous feeling that the mining laws—our existing mining laws—should be revised, and that persons engaged in the mining industry desire them revised. In concluding this meeting I desire in behalf of the Mining and Metallurgical Society of America to express the thanks of that organization to its own members, and especially to the members of other societies who have attended this meeting from points far remote from the halls of Congress. We have had with us to-day a large number of gentlemen, all of whom have come from a distance, the nearest from Philadelphia and New York; the farthest from States so remote as Oregon and California. The fact that persons engaged in the mining industry have come these long distances to take part in this meeting must show Congress the sincerity that the miners of the country have in the desire for a revision of the mining laws.

Gentlemen, this meeting now stands adjourned.

ORGANIZATIONS REPRESENTED BY DELEGATES.

Mining and Metallurgical Society of America.
American Mining Congress.
American Institute of Mining Engineers.
Idaho Mining Association.
Spokane Mining Men's Club.
Colorado Scientific Society.
Montana Society of Engineers.
Nevada Mine Operators' Association.
Oregon Bureau of Mines.
Engineering Society of Western Pennsylvania.
United States Senate.
United States House of Representatives.
United States Geological Survey.
United States Bureau of Mines.
United States Land Office.
United States Forest Service.
United States Board of Appeals.
Anthracite Bureau of Information.
United States Smelting, Refining & Mining Co.
Homestake Mining Co.
Utah Fertilizer & Chemical Co.
Mid West Oil Co.
Midway Northern Oil Co.
Pacific Coast Borax Co.

(A great many mines and mining companies were represented by delegates who registered as members of one or more of the foregoing organizations, rather than as delegates from particular mines.)

CHAMBERS OF COMMERCE WHICH APPOINTED DELEGATES.

Great Falls Commercial Club.
Phoenix Chamber of Commerce.
San Francisco Chamber of Commerce.
Helena Commercial Club.
Oregon State Miners' Association.
Humboldt Chamber of Commerce.
Douglas Chamber of Commerce.
Canon City Chamber of Commerce.
Florence Chamber of Commerce.
Fairbanks Chamber of Commerce.

